



UGANDA COMMUNICATIONS COMMISSION

RECOMMENDATIONS ON PROPOSED REVIEW OF THE TELECOMMUNICATIONS SECTOR POLICY

**TO THE MINISTER OF
WORKS, HOUSING AND COMMUNICATIONS**
31st January 2005

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MEMBERS OF THE REVIEW COMMITTEE

1. Eng Dr. F. F. Tusubira	Uganda Communications Commission (Chairman)
2. Mr. P. Masambu	Uganda Communications Commission
3. Eng Dr. G. Kibuuka	Ministry of Works, Housing and Communications
4. Dr. D. Turahi	Ministry of Works, Housing and Communications
5. Dr. H. Mulira	National Information Technology Authority-Uganda
6. Mr. S. Onyango	National Information Technology Authority-Uganda
7. Mr. C. Bwitwayiki	National Planning Authority
8. Dr. Okullu-Mura	Department of Information, Office of the President
9. Mr. G. Mutabazi	Broadcasting Council
10. Mr. H. Semakula	Uganda Communications Commission
11. Mr. P. Mwesigwa	Uganda Communications Commission
12. Mr. S. Bugaba	Uganda Communications Commission
13. Mr. J. Bantulaki	Uganda Communications Commission
14. Ms. J. Nampewo	Uganda Communications Commission
15. Ms. A. Ssemboga	Uganda Communications Commission
16. Mrs. I. Kaggwa-Sewankambo	Uganda Communications Commission
17. Mr. H. Namakajjo	Uganda Communications Commission

Special thanks also go out to Eng. Ernest C. Ndukwe, the Executive Vice Chairman/Chief Executive Officer of Nigerian Communications Commission and Dr. Lishan Adam, ICT Consultant and Researcher as well as Associate Professor with the Department of Information Science at the University of Stellenbosch in South Africa, for their external input to this review process. We also thank CATIA 1e/NetTel@Africa for facilitating their participation.

EXECUTIVE SUMMARY

1. INTRODUCTION

The current telecommunications policy and regulatory environment in Uganda was established through the telecommunications sector policy framework of 1996, the Uganda Communications Act of 1997 (Laws of Uganda Cap 106), and the licenses that were issued to the two National Telecommunications Operators. Key components of the policy strategy were the creation of an independent regulator, implementation of a limited competition period (specifically in basic telephony services, cellular telecommunications services and satellite services) and the unbundling of the Uganda Posts and Telecommunications Corporation.

Various analyses on sector performance have shown that Uganda has one of the best regulatory environments in Africa and that the key objectives set out in 1996 have been exceeded several times over. The studies however also show that penetration of services still remains too low to provide the necessary efficiency in service delivery as well as social and economic transactions compatible with sustainable human development. Another observation is that the original policy objectives focused only on provision of infrastructure and were not driven by a holistic consideration of the infrastructure requirements necessary to support the many programmes that are addressing poverty alleviation and human development in Uganda. The fact that the limited competition period is due to end on July 24th 2005 provides an opportunity for a complete rethinking of the telecommunication sector policy so that it is driven by the human development needs.

It is against this background that the Minister of Works, Housing and Communications asked the Uganda Communications Commission to prepare and submit recommendations on a holistic sector policy. This report is the response to that request.

2. THE PROCESS

The Uganda Communications Commission defined a two-stage process for the policy formulation. The first stage involved collection of background information and a think tank strategy which brought together the Uganda Communications Commission, the National Information Technology Agency – NITA-U, the National Planning Authority, the Ministry of Works, Housing and Communications, the Department of Information (Office of the President), and the Broadcasting Council. During the first stage, an issues paper was developed, giving points of debate about the new policy. The second phase involved a series of consultative fora, both public and limited, giving an opportunity for the general public, civil society, investors and service providers, legislators, and various government officials to

give their views and input. A key underlying motivation in the process was national ownership, this being a key ingredient to success.

3. THE HOLISTIC APPROACH TO SECTOR POLICY FORMULATION

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).

At the national front, response to the MDGs is through the country's broad national development goals as stipulated in the Uganda Vision 2025 and actualised through the Poverty Eradication Action Plan (PEAP). PEAP has many pillars including the Plan for Modernization of Agriculture (PMA); 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.

The National ICT Policy framework defines the entry points for Information and Communication Technology into the national development process through, *inter alia*, supporting the development targets and processes in other sectors; and being an economic sector in its own right. The National Telecommunications Policy and the infrastructure targets similarly respond to the National ICT policy framework. Infrastructure needs and the rate of roll out are therefore dictated by the planned rate of progress in sectors like education, health, agriculture and governance. Human development impact then becomes the defining measure of success, with the extent of infrastructure only being an indicative measure.

The holistic approach must especially focus on the majority of often marginalised citizens comprising of rural communities, women, the physically disadvantaged, and youth. It must also address environmental concerns.

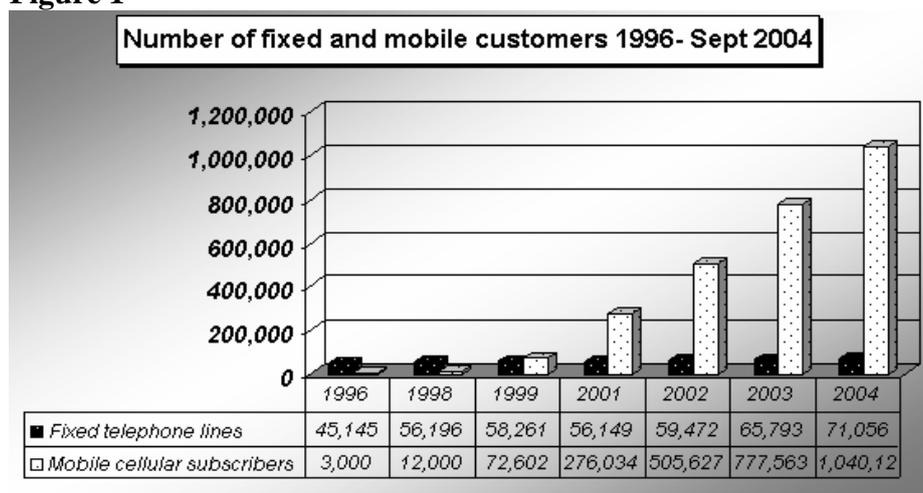
4. PERFORMANCE UNDER THE 1996 POLICY FRAMEWORK AND CONTINUING CHALLENGES

Performance is summarised in Table 1. The figures in this section further elaborate the achievements under the 1996 Policy in respect of subscribers, employment and contribution to GDP.

Table 1: Performance under the 1996 Policy Framework

Goals set in the 1996	Targets set in the 1996	Performance (as of 2004)
Increase telephone density from the current 0.26 lines per 100 persons to 2.0 lines per 100 persons	<ul style="list-style-type: none"> • Increase number of telephone lines to at least 300,000 by the year 2002; 	Penetration has grown from only 0.28 lines per 100 persons in 1998, to over 4.2 lines per 100 persons in 2004. This is a composite of both mobile and fixed customers.
Improve telecommunications facilities and service quality	<ul style="list-style-type: none"> • Establish a national network which is at least 75% digital and supports new intelligent services; • Improve the average call completion rate from 35% to 65%; • Improve the percentage of fault recovery rate to 60% in 24 hours and 95% in 72 hours; • Reduce the connection wait-time to a maximum of two weeks for new applications in urban areas; 	<p>Over 90% switching and transmission networks are digital.</p> <p>Improved to about 87% on fixed and 99% on mobile.</p>
Add new services, including electronic mail, paging, voice messaging, low cost data distribution and cable distribution of image	<ul style="list-style-type: none"> • Introduce a national numbering plan that promotes growth of new services and is fair to competitors. 	New services and product packaging are continuously being introduced to serve all categories of customers irrespective of size or demand and income. Pre-paid systems are extremely popular across the board of services but most specifically in the cellular market. sms messaging has also grown in popularity.
<ul style="list-style-type: none"> • Meet un-served customer demand for telecommunications services; • Increase the geographical coverage of telecommunications services throughout the country, ensuring a balanced and coordinated telecommunications network through licensing, regulation and standardisation 	<ul style="list-style-type: none"> • Install pay phones and public call offices and other appropriate telecommunications services in rural areas; • Provide automated telephone services to all districts and county headquarters; 	<ul style="list-style-type: none"> • The Rural Communications Development Policy was adopted in 2001 and the Rural Communications Development Fund launched in February 2003. The programme currently focuses on the following: <ul style="list-style-type: none"> ✓ Increasing the number of pay phones first to 1 pay phone among every 5000 people; then to 1 phone to 2500 people. ✓ Establishment of an Internet Point of Presence (PoP) at each district headquarter (20 covered to date). ✓ Establishment of Internet cafés with ICT training. Subsidies have been awarded for the establishment of at least 20 Internet cafes and 33 ICT training centres. ✓ Supporting local content creation. District information websites for 56 districts of the country have been developed ✓ Supporting a vanguard ICT training centre in each district. • 56 districts in the country have presence of voice telephony services through major license roll out obligations.

Figure 1



Number of telephone customers

Figure 2: Sector Direct and Indirect employment

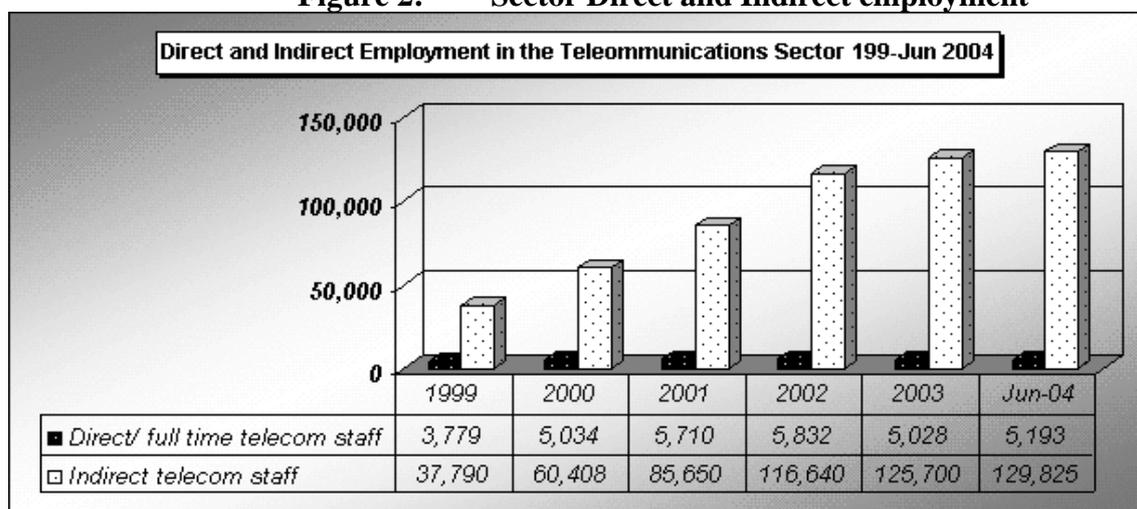
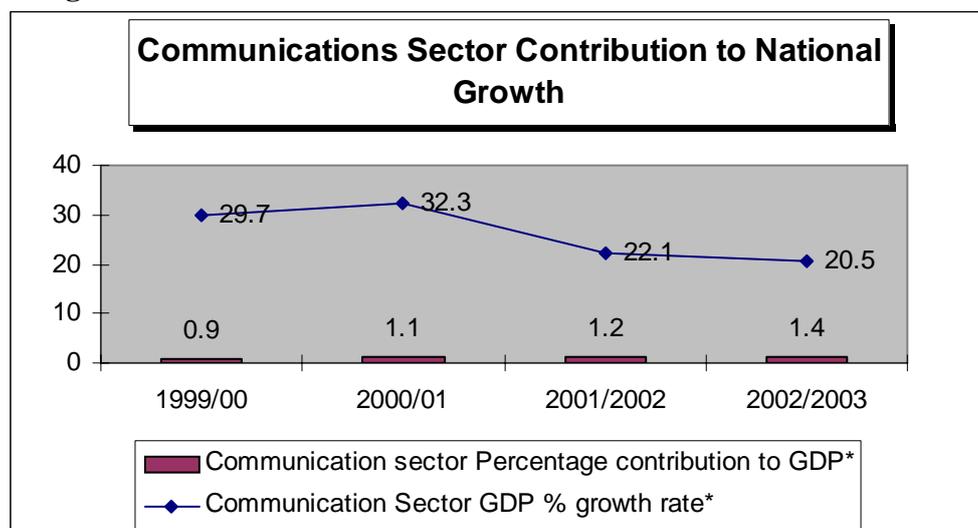


Figure 3



Despite the excellent sector performance, the following areas of challenge remain:

- **Promulgation of a competition law:** Government needs to come up with a national Competition law.
- **Removal of unnecessary barriers to the market:** The basis for providing for a limited competition period was first and foremost to attract credible investors in the Ugandan market, and secondly, to allow the licensed investors to recoup some of their investment in return of which they were required to fulfil the rollout obligations that were specifically included in their licenses. These have been achieved. Ending the limited competition will yield the following benefits to the country:
 - ✓ Further reduction in consumer tariffs
 - ✓ Increased investments in the sector
 - ✓ Increased penetration of services
 - ✓ Innovations in the provision of services resulting in use of more cost-effective technologies
 - ✓ Stimulation of market growth
 - ✓ Increased tax base for government
 - ✓ Increase in employment opportunities
 - ✓ Bring prices into line with costs
 - ✓ Encourage improvements in quality and responsiveness to customer demand
 - ✓ Impose efficiency with which resources are allocated
- **Setting up the Uganda Communications Tribunal:** Government needs to implement the law by setting up this tribunal to provide a rapid response to grievances in the sector.
- **Bringing Public Private sector Partnerships (PPPs) on board:** Only 1 million lines (90% low bandwidth mobile) have been rolled out on the last eight years, a rate of 125,000 per year that is already slowing down. The time required to achieve sufficient penetration to spur national development to higher levels based on private sector investment is unacceptably long. Government should intervene through PPPs in selected areas, especially in facilitating the installation of a national telecommunication backbone with adequate bandwidth.
- ICT awareness programmes through out the country should be strengthened and fully supported by all sectors of Government as well as private sector.
- **Government intervention on increasing affordability:** The removal of taxes like excise duty on airtime will go a long way in increasing affordability.

- The grey area surrounding Internet telephony needs to be addressed: it should be made clear that there is no legal or regulatory prohibition against the use of Internet telephony.
- **Internet Access:** While this was not addressed directly in any way in the telecommunications policy and objectives, it is a critical sphere where the government, the regulator as well as the private sector need to take action. The following issues need to be addressed:
 - ✓ Uganda is “e-landlocked,” without direct access to the international fibre backbone. Until this is addressed, Ugandans will generally be locked out of the global knowledge society. This is a national strategic priority
 - ✓ Creation of relevant and accessible content.
 - ✓ Promoting regional peering within first East Africa and the whole of Africa.
 - ✓ The need for government to become the number one user and advocate of the Internet in Uganda.

5. THE MACRO-ENVIRONMENT AND IMPLICATIONS

In establishing policy and policy goals, consideration of the macro environment responds to the question: *“What is it in the social, economic, legal, and political environment that needs to be taken into account in order to ensure that policy is responsive and will be successful?”*

The following are key issues arising out of the analysis of the macro-environment:

5.1 The Political economy

- Government will more likely continue favouring policies and strategies that promote the participation of the private sector in a competitive environment.
- Provided a proper case of national interest can be made, government is likely to accept a policy and strategy that calls for PPPs.
- It would be prudent for the revised sector policy and strategy to take due cognisance of government’s desire to devolve powers to local and regional governments. It is however be strongly recommended that during the Master Plan period of 2005 – 2010, sector regulation remains centralised to ensure that the national vision of universal access to promote human development is realised.
- At regional level, having one East African parliament by 2010 is one of the issues being considered under the East African Community. Joint policy and legislative framework is expected to ensue.
- Government should take it as a top priority to bring together all the ICT sector players under single political guidance, preferably their own ministry, or in a parent ministry where it can be given the prominence necessary to help in transforming Uganda into a knowledge society.

5.2 The legal framework

The legal framework should be *capable of flexibly addressing the unpredictable markets with many more participants*. Additionally, the following need to be addressed:

- The repealing of the Uganda Posts and Telecommunications Corporation Act, Cap 107, Laws of Uganda.
- The amendment of the Major licenses to reflect the expiry of the duopoly period and to clarify all the “grey” areas within the Major and minor licenses.
- Radio Frequency Management harmonization of the laws, to wit, Cap 104 and Cap 106 to clearly lay out the frequency allocation responsibility and avoid conflict of roles between Uganda Communication Commission and Broadcasting Council.
- The establishment of a Tribunal to provide a forum for arbitration and settlement of disputes in a speedy and reliable manner vis a vis a regular judicial system which may not be equipped to provide a quick response, especially in a more liberalized environment.
- The new legal framework and definitions should duly address the phenomenon of convergence.
- To put in place a compliance mechanism independent of persons and Government that is effective, efficient, appropriately funded as well as resourced.
- Review and enable the Commissions jurisdictions /powers in respect to setting of fines.
- Address Intellectual Property Law issues unique to Telecommunications

5.3 The economic environment

- The proposed telecommunications policy should be designed to address those activities that translate into substantial and sustainable income generating avenues such as agriculture as well as SMEs.
- Extension of education services to provide information and skills for increased productivity, coupled with rural finance and improved market access should be prioritised in the new policy.
- The Telecommunications policy 2005 should be designed to encourage ICT application in the financial sector, to translate into lower costs and increased volume of transactions in the financial sector.

5.4 Human Development and Gender Issues

- The policy should be designed to target the youth to be drivers of ICT in Uganda.
- The fact that the majority of the population is below 15years, and noting that there is high uptake of mobile phones among the younger generation, combined with

Universal Primary Education and a more ambitious outlook in the population introduces a very important market dynamic: There is going to be an upsurge in the demand for mobile telephone and internet access services over the next five to ten years. *Marketing strategies that promote almost free sets and capitalise on usage will be able to tap into this market.*

- To address the Gender gap by encouraging and designing specific programs to promote ICT usage by female.

6. LESSONS FROM THE EXPERIENCE OF OTHER COUNTRIES AND REGIONAL INITIATIVES

Eight countries were reviewed: Germany – one of the pioneers of full liberalisation in Europe; India – popular for a fast growing Information and Communications Technology (ICT) sector, with ICTs becoming a major export of the country; Kenya – experience from within the region; Malaysia – converged regulation from 1998; Mauritius – has recognised positive strides in ICT development on the African continent; Rwanda – trying to leapfrog and land locked like Uganda; Singapore – an example of government intervention in driving the country forward in ICTs; South Africa – looked at as a major pace setter in ICT sector growth on the African continent. The following recommendations are based on the review:

- 6.1 The sector should be opened up to full competition with minimal barriers to entry but with regard to availability of scarce resources such as spectrum, numbering and right of way.
- 6.2 Consumer empowerment should be increased to enable consumers exercise their right of choice and their right to redress, leading to regulation by the market.
- 6.3 There should be legislated coordination among the agencies responsible for the different sectors that make up ICT, with the target of *merger under single political direction*.
- 6.4 Develop licensing that encourages optimum use of available resources (such as infrastructure – including that from other sectors or industries such as railways and power).
- 6.5 All ISPs should be allowed to set up their own international gateways and to utilise their networks to full potential by providing unrestricted services.
- 6.8 Special obligations and sector specific competition regulations (laws) applicable to all telecommunications networks and services should be imposed and enforced. A close coherent link between the sector specific competition regulations and the general competition law should be established.
- 6.9 Rural communications development programme should be strengthened to deal with service/access gaps in the competition driven environment.
- 6.10 Self-provisioning of infrastructure and services for private use should be permitted.

6.11 Regional and International policies and initiatives: Due account must be taken of emerging regional policies and strategies. In the East African Community, this includes the harmonization of the EA Communications regulation strategy; Lowering of tariffs; establishing a common tariff regime; permitting competition immediately; early training in ICT; reviewing the interconnection regimes among the three countries; a common approach to infrastructure, for example the high capacity link of EAC Digital Transmission Project and the EA Submarine and COMTEL project.

7. RECOMMENDED SECTOR POLICY: GENERAL STATEMENT, MISSION, GOALS, UNIVERSAL ACCESS AND OBJECTIVES

7.1 General Statement

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

- Government recognises 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 will work towards the convergence of all ICT sectors under single political leadership to ensure maximum synergy and harmonised policy, laws, and regulation.
- Access to the international Internet backbone via optical fibre and the establishment of a national data backbone are key national strategic priorities to be achieved by 2010.

7.2 Mission

To establish, by the year 2010, a fully liberalised telecommunications sector as an engine of growth that is driven by the Human Development needs of Uganda.

7.3 Policy Goals

The proposed specific policy goals under this mission are:

7.3.1 To ensure the ubiquitous presence of telecommunication infrastructure and services that will enable sustainable human development through ease and affordability of access to relevant, accurate, and timely information (actual content being the responsibility of the various public sectors as well as civil society and private sector initiatives).

7.3.2 To facilitate the delivery of the high level information and service needs to all sectors of society, especially the marginalized sections of society that

comprise of rural or poor communities, women, people with disabilities, through close integration with the following:

- *IT sector*
- *Broadcasting sector*
- *Media sector*
- *Postal sector*

7.3.3 *To promote the growth of the production and service sectors related to or closely supported by the telecommunication industry in Uganda (research and development, fabrication and manufacturing, training, consultancy, outsourcing services, etc).*

7.3.4 *To ensure that all aspects of processes and operations in the sector take full account of the following cross-cutting issues:*

- *Gender concerns*
- *Physically disadvantaged*
- *Sustainable exploitation of the environment*

7.4 Universal Access

Universal Access remains the priority undertaking under the new policy. It is defined by the question: “*What infrastructure and services must be in place (where and when) in order to enable the human development plans and objectives of the different sectors?*” In responding to this, it is recognised that despite the progress achieved, the majority of Ugandans, especially the rural communities, continue to lack access to telecommunications. They constitute groups that will be the last to be reached by commercial voice/ data (computer usage e.g. e-mail/internet) systems that evolve in private markets: this makes the case for interventions driven by universal access targets.

Universal Access is defined in the new policy as follows:

The accessibility, by the year 2010, to a minimum of one voice and data network point specified as follows:

- ***Institutional Access Points (Data capacity/ minimum speed 256kb/s):*** *Within all primary and post primary educational institutions and government health units as well as other public institutions as will be subsequently determined by UCC.*
- ***Public Access Points (Tiered data capacity/speed determined by UCC):*** *Within each parish of an administrative district of Uganda (2004), based on one access point per 1000 people.*

- **Pricing:** *Using approaches that rely on competitive pressure, regulatory and fiscal incentives, and a high level of productivity among service providers to ensure affordability in the marginalised sectors of society*
- **Technology:** *There will be technology neutrality in both policy and regulation.*

7.5 General Objectives

- (a) To promote and enable the building and establishment of an appropriate infrastructure that supports ICT for development and achieves Universal Access in Uganda
- (b) To promote fair competition and private investment in the telecommunications sector with particular emphasis on development and encouragement of local participation, including specific incentives for investing in telecommunications.
- (c) To increase the levels of ICT functional literacy in all sectors and build human resource capacity to support the sector.
- (d) To identify and establish innovative financing mechanisms that address specific needs of telecommunications development.
- (e) To promote the use of telecommunications in the stimulation of production, storage, and dissemination of in-country information and knowledge in both the public and private sectors.
- (f) To facilitate the broadest possible access to public domain information.
- (g) To ensure gender mainstreaming in telecommunications development.
- (h) To provide for establishment of an enabling and desirable legal and regulatory framework that, among other things, takes into account the convergence of technologies.
- (i) To enhance regional and international level collaboration and co-ordination in telecommunications development
- (j) To encourage innovation and facilitate the development of new services and technologies such as VoIP, provided under clear guidelines issued by UCC.

7.6 Specific Objectives

The specific objectives are defined within the context of providing an infrastructure that provides by the year **2010, accessibility and availability throughout the country** to a minimum of a voice and data network point as detailed:

Part 1: Targets to support the universal access objectives aimed at enabling the human development plans of various government service delivery sectors. These will be supported through the Rural Communications Development Fund as well as PPPs

- (a) Institutional Data Access Points of speeds not less than 256kb/s: For all universal primary education schools and post primary institutions; all Educational Institutions; Government health units at LC111; Population Centres in units of 1,000 people; Agricultural extension units and other public institutions as may be subsequently determined by UCC in consultation with the service delivery arms of government.
- (b) Public Data Access Points of speed not less than 256kb/s within each sub county (LC111) of the Administrative districts of Uganda (2004)
- (c) Public Voice Access Points within each Local Council second Level (LC111)/parish of the administrative districts of Uganda (2004).
- (d) Interconnection of all higher local governments capitals by gigabit link as part of the National Data Backbone.

Part 2: Targets to that address sectors of the population that can afford services. These will be achieved largely through market liberalisation, fair competition, and regulation that assures fair pricing. PPPs will have a limited role during the policy period to 2010.

- (a) A universal service target of 20% of the projected population, up from the current 4.2%.
- (b) Internet connection at greater than 64kbps to at least 10% of households in the country up from the current figure that is less than 1%.

Part 3: Strategy objectives, in terms of establishing the market through licensing and regulation.

The **proposed** key components in defining the market structure are:

- (a) Reducing license categories to only two: infrastructure and services.
 - Infrastructure licenses will permit holders to establish and operate telecommunication infrastructure. In the case of public licensees, these will be obliged to permit service providers access to infrastructure on a non-discriminatory commercial basis.

At least three licensees shall be permitted to establish and operate nationwide infrastructure up to 2010 under an National Telecommunications Operators licence, after which competition in this category will be fully liberalised. The 3rd NTO will be licensed within twenty-four months after the expiry of the Exclusivity period. This NTO sub-category shall also be subject to obligations that will be in line with the national universal access targets as well as specific rights in the sector.

- Services licensees will be allowed to apply to provide any telecommunication service. These shall also be subject to obligations dependent on the type of services offered and nature of operations of the licensee. There will be unlimited competition in the provision of services.

Service providers of publicly available telecommunications services with national coverage shall also be accorded Public Operator status upon fulfilment of Commission's conditions. This status shall be accompanied by rights and obligations.

- (b) Addressing affordability and avoiding abuse of market power through price regulation aimed at licensees who achieve dominant market share in infrastructure or services.
- (c) Automatically permitting self-provision of infrastructure for services providers whose infrastructure needs cannot be met within the Maximum Response Time as specified by UCC.
- (d) Requiring holders of converged licenses (i.e., permitted to roll out and operate any infrastructure and service) to have a clear business separation between the infrastructure and the services side of operations; and between wholesale and retail operations

7.7 Proposed Implementation time line

The Uganda Communications Commission shall submit the Report to the Minister on the 31st January 2005. The months of February and March will be dedicated to the submission of the policy to Cabinet and its approval. At the end of March, the policy shall be pronounced with the subsequent consideration and amendment of the Uganda Communications Act by Legislature over April, May and June. During this and following months, the modification of licences as well as review and modification of the regulatory framework shall occur.

The effective start date for the new policy shall be July 2005 with full implementation of the new regulatory regime starting 31st December 2005. The Third National Operator Licence shall be issued during the period between July 2005 and June 2007. June 2007 shall also be the time for the mid term policy review.

CHAPTER 1: INTRODUCTION

1.1 Background

The current policy and regulatory environment in Uganda was established through the telecommunications sector policy of 1996, and operationalised by the Uganda Communications Act, 1997 (Laws of Uganda Cap 106). These, together with the national telecommunications operator licenses, have established a regulatory environment and a market structure that have had very significant positive impact on the availability and affordability of telecommunications in Uganda. Nevertheless, a sector performance review and related analyses conducted during 2003 have established that despite the successes, there are gaps and short-comings that now need to be addressed in the policy if the telecommunications sector is to achieve the expected impact in supporting human development in Uganda. Additionally, one of the main strategic pillars of the past seven years, the Exclusivity Period that limited competition in identified primary market, ends on July 24th 2005. The review is therefore also timely in order to inform the market in good time before the end of Exclusivity Period.

The sector policy review was initiated by a recommendation by the Uganda Communications Commission (UCC) to the Minister of Works, Housing and Communication about its necessity at this point in time. The Minister responded by formally asking the UCC to undertake a holistic review of the sector policy and make recommendations to the Ministry, this indeed being in line with the mandate of UCC as spelt out by the Cap 106, Laws of Uganda.

This report has been produced to capture the motivation, the background, the source documents, and the thinking that gives the basis for the specific recommendations on broad policy goals, specific policy objectives, implementation strategy, and implementation master plan.

1.2 Motivation For The Sector Policy Review

The following factors make the policy review necessary and imperative at this moment in time:

1.2.1 The key objectives of the first policy, namely, separating the roles of policy formulation, regulation and operations; increasing penetration of services to a given level; giving consumers access to a wide range of competitively priced services; and increasing private investment in the sector, have been achieved. It is now necessary to set new horizons.

1.2.2 *Limited competition was a key strategy pillar in attracting private sector investment at a time when the market size was incorrectly estimated to be unattractively small. The market has expanded far beyond the expectations of Government and the private sector. In addition, the period of limited competition is due to expire and, according to the licenses, may not be extended. Policy level decisions are required to define the new market structure.*

1.2.3 *Convergence of transport and delivery infrastructure regardless of user services offered is now a reality, and both the policy and regulatory environments of the past seven years are not set up to cope with its demands. What were seen as value added services have become the dominant services, and the decision of what and how to regulate (or not to regulate) must now be made in a new environment.*

1.2.4 *There is need to build on the various strengths, and to address the gaps, shortcomings and failures of the current policy and regulatory regimes.*

1.3 Holistic Approach To The Review

The Telecommunications Sector Policy objectives (1996) were driven by the need to provide an acceptable minimum of infrastructure to enable basic voice communication: it was literally emergency intervention. With the backdrop of what has been achieved, Uganda is now able to approach the new sector policy from the perspective of providing infrastructure to enable other sectors.

It is desirable to have a policy that can create a telecommunications environment that is responsive to the development needs of the country. The starting point for this review is therefore the National Vision, Vision 20-25, as well as any amendments of this that may arise from its proposed review to Vision 2035, and the Poverty Eradication Action Plan as implemented through the development plans and objective in the different sectors: education, health, agriculture, and governance. Such national plans respond to the broader world development aspirations stated in the Millennium Development Goals, which have also been taken into account. Human development impact then becomes the defining measure of success, with the extent of infrastructure only being an indicative measure. The National ICT Policy Framework more specifically addresses what role telecommunications is expected to play, and was therefore a key document in the review.

The holistic approach must also take due cognisance of the majority of often marginalised citizens (rural communities, women, youth), most of whom are currently living below the poverty line, as well as environmental concerns.

1.4 The Process

National ownership has been a key concern in policy review, recognising that it is the foundation for acceptance and success. The process was therefore designed to ensure that all stakeholders are given opportunity, at the right time, for meaningful contribution.

The process started with an internal review within Uganda Communications Commission before expanding to involve other sectors and stakeholders in a phased approach:

- Inception and Drafting phase - Phase 1: Stakeholders in Phase 1 were recognised as the direct players in the National ICT Policy. These were involved in the inception and think tank stages of the policy review that led to the draft report (this document) and the draft policy.
- The Consultative phase - Phase 2: in which discussions were expanded further to involve other stakeholders.

1.5 The Output

1.5.1 *The Policy Review Report (this document) that captures the motivation, the background, the source documents, and the thinking that gives the basis for the specific recommendations on broad policy goals, specific policy objectives, implementation strategy, and implementation master plan*

1.5.2 *The proposed policy statement with the policy statements and objectives, the implementation strategy, and the implementation master plan.*

1.6 Report Layout

The Report commences with a background that gives an overview of the 1996 policy objectives and targets as well as the general performance of the Sector under the 1996 policy. How did the sector perform against the then envisioned policy goals? The proceeding chapter addresses the broad macro environment with specific emphasis to the political, legal and the economic environment. What aspects in these areas need to be taken into account to ensure a responsive and successful policy?

The world has become a global village and operations of a single country cannot be divorced from what goes on in the rest of the world. Chapter 4 is an analysis of experiences of selected countries and what lessons can be picked by Uganda. The regional and international initiatives are addressed in Chapter 5 and a leaf is borrowed from ICT regional initiatives as it is important that the same be adopted by the respective countries, with necessary modifications.

Chapter 6 defines the new policy and Chapter 7 considers the proposed policy objectives while Chapter 8 outlines the overall implementation master plan.

CHAPTER 2: PERFORMANCE THE SECTOR UNDER THE 1996 TELECOMMUNICATIONS SECTOR POLICY¹

2.1 Background

Domestic or regional telecommunication and postal services throughout East Africa (Kenya, Tanzania, Uganda) were historically run by the East African Posts and Telecommunications Corporation (EAP&TC) under the East African Community with the international services provided by East African External Telecommunications Company. The split of the Community in the late seventies led to the establishment of the Uganda Posts and Telecommunications Corporation (UPT&C), which operated by decree from 1977 until the UPTC Act of 1983. Until 1993, UPTC operated as a de facto monopoly provider of both telecommunications and postal services in Uganda, and was at the same time the sole regulator acting under the direction of government.

In 1987, the Economic Recovery Programme started in Uganda, leading subsequently to the establishment of multi-sectoral inter-ministerial Committee on Investments in Telecommunications in 1993. It is this Committee that came up with recommendations that were the precursor to subsequent sector reforms in Uganda. Although the initial motivation for this effort in the sector was to address the consistently poor performance of UPTC and the desire to reduce government subsidy to the sector, the review process resulted in broader considerations and objectives that were captured along the process of reform. The reform was clearly not approached in a holistic manner, and it did not focus specifically on development.

The 1996 policy objectives, and performance over the last seven years following enactment of the enabling law are reviewed in this Chapter.

2.2 The 1996 Telecommunication Sector Policy Objectives and Targets

In 1996, the Minister of Works, Transport and Communications issued a statement outlining the Government of Uganda's telecommunications goals and numerical targets of quality and growth.

The numerical targets set were to:

- Improve the average call completion rate from 35% to 65%;
- Improve the percentage of fault recovery rate to 60% in 24 hours and 95% in 72 hours;

¹ See "Uganda Telecommunications Sector Performance Review" by F. F. Tsubira, Irene Kagwa and Fred Mukholi

- Provide automated telephone services to all districts and county headquarters;
- Establish a national network which is at least 75% digital and supports new intelligent services;
- Install pay phones and public call offices and other appropriate telecommunications services in rural areas;
- Increase number of telephone lines to at least 300,000 by the year 2002;
- Reduce the connection wait-time to a maximum of two weeks for new applications in urban areas;
- Introduce a national numbering plan that promotes growth of new services and is fair to competitors.

This was followed by a process of formulating the law to enable the achievement of the objectives. The Uganda Communications Act of 1997 (Laws of Uganda Cap 106) specifically spells out the following extended objectives of the Act:

- a. *Enhancing the national coverage of communications services and products, with emphasis on provision of communication services.*
- b. *Expanding the existing variety of communications services available in Uganda to include modern and innovative postal and telecommunications services*
- c. *Reducing Government direct role as an operator in the sector.*
- d. *Encouraging the participation of private investors in the development of the sector*
- e. *Introducing, encouraging and enabling competition in the sector through regulation and licensing competitive operators to achieve rapid network expansion, standardisation as well as operation of competitively priced, quality services.*
- f. *Minimising all direct and indirect subsidies paid by Government to the communications sector and for communications services.*
- g. *Establishing and administering a fund for rural communications development*

Government of Uganda adopted a four-part strategy to facilitate the rapid expansion of the telecommunications sector:

- Split UP&TC into 3 entities, namely Uganda Post Ltd (UPL), Uganda Telecom Ltd (UTL) and Post Bank.
- Create an independent regulatory agency: The Uganda Communications Commission (UCC) that was established in August 1998;

- Introduce competition in the industry: This included the licensing of the first mobile operator, Celtel (1993), and the second National Telecom Operator, MTN Uganda Limited, in April 1998;
- Privatised the incumbent telecommunications company –UTL. This started with a sale of 51% shares to a consortium of Telecel, Orascom and Detecon in June 2000, thereby reducing government control and direct role in the sector. Further dilution of control of the 49% is expected during the next policy regime through public offer.

2.3 Competition and licensing regime

The introduction of competition into the sector occurred as early as September 1993 when Clovergem Celtel Ltd was licensed to provide nationwide mobile telephony services. This was later followed by the opening up the value added services market, which resulted in issuance of various licences in 1995 and 1996 for paging services, satellite services (private voice and data services), VSAT services, public pay telephone, mobile trunked radio services, and customer premises internal block wiring services.

A new regime stemming from the Policy of 1996 was announced, which resulted in the enactment of the Uganda Communications Act (Laws of Uganda, Cap 106) in August 1997 to put the requisite legislative framework in place.

The current license regime, as prescribed by the Act, has services classified under Major and Minor license services. The Minister responsible for Communications issues the Major Licenses upon the advice of the regulator, while the Commission issues Minor Licenses. The major licence services by law include local, long distance or international telephone services, trunk capacity resale, rural telecommunications, store and forwarding messaging, cellular or mobile services. However, provisions in the major licences have significantly shaped the resultant structure of telecommunications market in Uganda.

Under the period of limited competition (Exclusivity) introduced in the national telecommunications operators' licences, the provision of certain services are restricted to major licensees and holders of licences granted prior to the Exclusivity for the respective services. Most of the major licence services fall under the provision of limited competition (Exclusivity). As a result, only three major licences have been issued in the sector during the past eight years. On the other hand there has been a considerable of growth in number of licenses issued in the minor category where unlimited competition has been encouraged. The resulting market structure is summarised in Table 1.

Table 1: Market Structure

Licences category	Type of licence	Current number of providers	Remarks
National Telecommunications Operators (NTOs)	Major	2 (UTL and MTN Uganda Limited)	A unified telecom licence that allows provision of all telecommunications service.
Cellular operators	Major	UTL, MTN and Celtel	Inconsistencies were noted between the Celtel license and the Act: the Celtel license designated it a minor license, while the Act designates cellular services as major. The Celtel license was consequently modified to a major license, with corresponding rights and obligations. One of these was to permit Celtel to have its independent international gateway.
Internet Access Service	Minor	18 (12 operational) licensed including NTOs	<ul style="list-style-type: none"> • 1st Internet Service Provider (ISP) licensed in 1996 • With commencement of the Exclusivity Period, licensing international data gateways to ISPs was suspended.
Public Pay Communication providers	Minor		<ul style="list-style-type: none"> • Open competition environment reselling services of locally licensed operators
Third Party Network Providers	minor	3 licensed but only one active	<ul style="list-style-type: none"> • Provides private voice and data • Issuance suspended with commencement of Exclusivity Period
Rural Communication Licenses		Licensing based on bidding	<ul style="list-style-type: none"> • Provide protected telephony services to those areas in which MTN and UTL gave up their exclusivity rights. • Also includes licences to provide Internet access services in specified rural areas
Self Service Providers.			Being persons who choose to provide themselves communication services.
'Inherited' Licenses			The law allowed all operations under the 1983 Act (Cap 107) to continue without significant changes, under Cap 106.

Under the current licensing structure, scarce resources are managed by UCC as highlighted below:

- Usage of radio spectrum is associated with a specific license and payment separate from the service licence.
- As recognized by the 1996 Policy, a stable National Numbering Plan is as important as backbone infrastructure to communication development, both as an enabler of entry into the market by various players and as an identity of customers. Currently, the allocation of number blocks is free of charge to the respective operators. The National Numbering Plan was reviewed by UCC in 2003 to facilitate further innovation as well as growth in the industry.

Due to deliberate policy in some cases and historical accident in others, the telecommunications sector in Uganda has got moderate competition, with at least two service providers in all telecommunication services. As a result, market forces have been the main driver for fairer pricing, improved quality of service, and the spread of value added services.

A competition concern has arisen from the current licensing structure under which the unified licences of the NTOs allow them to provide value added services for which minor licences have been issued with restrictions. Considering that the NTOs are also infrastructure providers particularly in the last mile access market, the potential for abuse of market dominance at the upstream level to distort competition at the retail level is an issue of real concern.

2.4 Performance of the Sector against Policy Goals

The objectives of the 1996 Policy, extended through the Act and the license requirements have been mostly achieved as illustrated in Table 2.

Table 2: Performance of the sector against 1996 Policy goals

Goals set in the 1996	Targets set in the 1996	Performance (as of 2004)
Increase telephone density from the current 0.26 lines per 100 persons to 2.0 lines per 100 persons	<ul style="list-style-type: none"> • Increase number of telephone lines to at least 300,000 by the year 2002; 	Penetration has grown from only 0.28 lines per 100 persons in 1998, to over 4.2 lines per 100 persons in 2004. This is a composite of both mobile and fixed customers.
Improve telecommunications facilities and service quality	<ul style="list-style-type: none"> • Establish a national network which is at least 75% digital and supports new intelligent services; • Improve the average call completion rate from 35% to 65%; • Improve the percentage of fault recovery rate to 60% in 24 hours and 95% in 72 hours; • Reduce the connection wait- 	Over 90% switching and transmission networks have been digitalised.

	time to a maximum of two weeks for new applications in urban areas;	
Add new services, including electronic mail, paging, voice messaging, low cost data distribution and cable distribution of image	<ul style="list-style-type: none"> • Introduce a national numbering plan that promotes growth of new services and is fair to competitors. 	New services and product packaging are continuously being introduced to serve all categories of customers irrespective of size or demand and income. Pre-paid systems are extremely popular across the board of services but most specifically in the cellular market. Sms messaging has also grown in popularity among the people of Uganda.
<ul style="list-style-type: none"> • Meet un-served customer demand for telecommunication s services; • Increase the geographical coverage of telecommunication s services throughout the country, ensuring a balanced and coordinated telecommunication s network through licensing, regulation and standardisation 	<ul style="list-style-type: none"> • Install pay phones and public call offices and other appropriate telecommunications services in rural areas; • Provide automated telephone services to all districts and county headquarters; 	<ul style="list-style-type: none"> • The Rural Communications Development Policy was adopted in 2002 and the Rural Communications Development Fund launched in February 2003. The programme currently focuses on the following: <ul style="list-style-type: none"> ✓ Increasing the number of pay phones first to 1 pay phone among every 5000 people and then to 1 phone to 2500 people. ✓ Establishment of Internet Points of Presence (PoP) at each district headquarter (20 districts have so far been covered). ✓ Establishment of Internet cafés with ICT training. ✓ Supporting local content creation. ✓ Supporting a vanguard ICT training centre in each district. • The major licences contain provisions on roll out obligations. As a result, all the current 56 districts in the country have presence of voice telephony services.

Despite the modest achievements of the sector, a significant fraction of the population of the country still remains without access to the basic telephony services. The existing backbone infrastructure capacity is also not adequate, and service tariffs are still too high for the majority of citizens.

There are numerous factors to which the relatively low uptake of telecommunication services in Uganda has been attributed. These include:

- The low per capita income (US\$ 200 for the year 2004), and more importantly, the percentage of the population living below the poverty line (over 39%)
- Inadequate consumer empowerment resulting in a lack of understanding of benefits and opportunities (investment and otherwise) presented by the telecommunications services.
- The low level of integration of Information and Communications Technologies (ICTs) in the daily activities that define their lives and in service delivery in areas such as local government, banks, health etc.

- The still strong unchanged culture of “face to face” contact before any business can be concluded.
- Lack of appropriate local content as well as limitations to users arising from illiteracy and age.
- Inadequate availability and accessibility of telecommunication facilities particularly for voice communication in the rural areas and data in the urban areas.

2.5 Economic Performance

2.5.1 Contribution to GDP

One of the ways of looking at the economic performance of the communications sector is by considering the contribution to the national GDP. The real GDP growth rates in different sectors show that the transport and communications sector, which was among the smallest contributors in 1998/99, has continuously increased to be one of the main contributors (Table 3). While the national GDP has been growing at an average rate of 5% for the past five years, the Communication sector has been growing, on average, at a rate of about 25% annually since 1998. Figure 2.1 illustrates both the communication sector growth and its contribution to GDP.

Growth in the transport & communications services sector in Uganda has been driven mainly by expansion in the communications sector, with the major turning point being the year 1998, when MTN started operations. It can be stated that this growth is a result of growth in competition through liberalisation and privatisation, coupled with greater innovation in product packing due to increased competition to capture the various income brackets of the population. The latter is most evident in the cellular market.

Table 3: Contribution of the Telecommunications Sector to GDP

	1999/00	2000/01	2001/02	2002/03
Total GDP (million Shs)	7,828,950	8,274,376	8,772,644	9,199,814
% Increase	5.9	5.7	6.0	4.9
Per Capita GDP	346,362	354,155	362,980	367,951
Exchange rate	1,454.83	1,664.5	1,755.56	1,797
Communication Sector GDP (million Shs)*	67,713	89,601	109,385	131,788
Communication Sector GDP % growth rate*	29.7	32.3	22.1	20.5
Communication sector contribution/ Percentage contribution to total GDP*	0.9	1.1	1.2	1.4

**This includes communications, multimedia industry and postal*

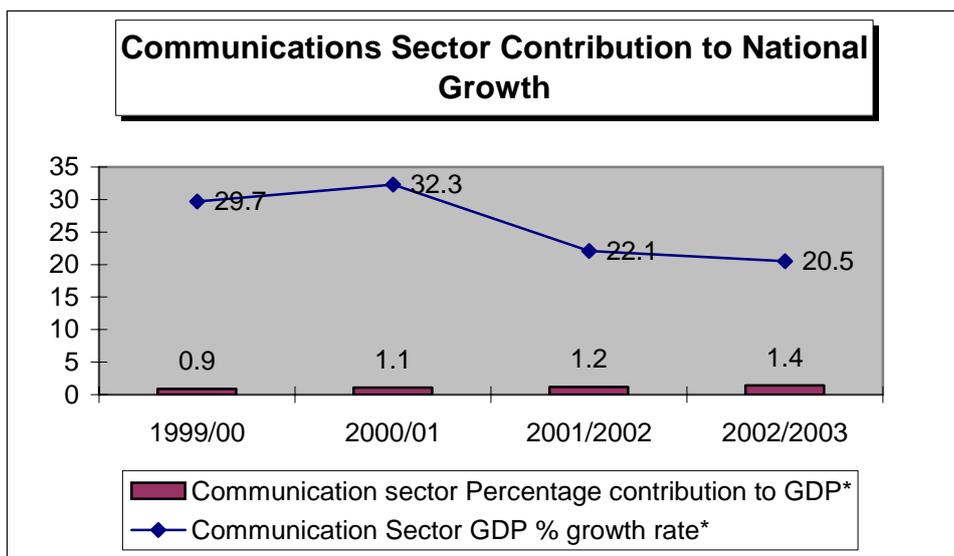


Figure 2.1: Communication Sector growth and contribution to GDP

2.5.2 Sector Investment

One of the key challenges Uganda faced prior to reform was securing sufficient investment to revamp a dilapidated network and expand it to extend services to the entire country. Investment in telecommunications infrastructure has however shown a steady increase over the years, rising from Uganda Shillings 27.9 billion in 1999 to Uganda Shillings 133.5 billion in 2003. While ISPs have also increased their investment, it has been at a much lower rate than the rest of the sector. Figure 2.2 shows sector investment for the period 1999 – 2003.

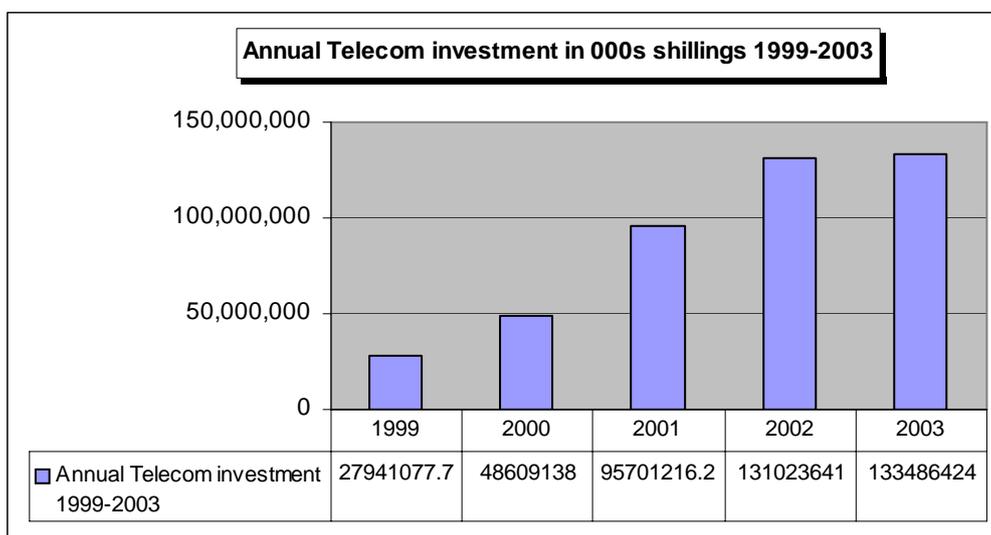


Figure 2.2: Sector investment

2.5.3 Revenue

The total revenues in the sector are over 20 times what they were five years ago with most of the revenue derived by the major operators. Considering the year 2001, 58% of the total revenue was of the major operators with the rest of the 42% to ISPs. It is noted that other markets in the sector especially those operating phone kiosks and cyber cafes are not included in the graph shown in figure 2.3 below. A comparison

between figures 2.2 and 2.3 shows that revenue in the sector has matched the proportion of investment made in the particular year.

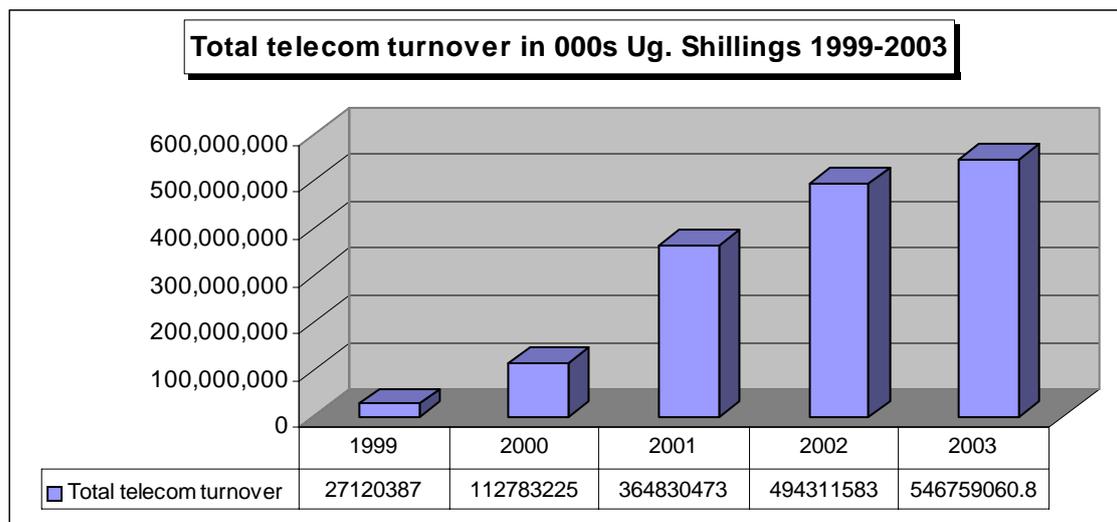


Figure 2.3: Sector Turn over

2.5.4 Tax

Excise duty is a tax normally used either to raise revenue or to discourage particular behaviour. In Uganda, Government has adopted an excise duty on airtime of mobile phone service as follows:

- Financial year 2002 – 5% excise duty (collected Ug. Shs 7 billion)
- Financial year 2003 – 7% excise duty (collected Ug. Shs 10 billion)
- Financial year 2004 – 10% excise duty

Although Government collected some revenue (1.3% of total taxes collection) through this taxation, there is a consequential negative effect on sector as discussed below.

- The margin of profit of the operators is reduced as they strive not to transfer the tax to the customers. The amount of capital left over from profits to invest and fulfil roll out obligations is therefore reduced affecting network and service growth as well as development.
- The reduced profit margin also reduces flexibility in tariff decrease, which implies that despite competition, consumers are unable to enjoy reductions in service tariffs. Although mobile services are today the most widely available across the country, the fraction of the population able to afford the services is limited. This implies that their right to communication is denied. Together with the additional value added tax (17% in VAT) payable by consumers, the total taxes levied on each voice call amounts to 27%.

With effect from the financial year 2002, the Government waived customs tax on ICT equipment, most specifically on computers. Earlier on, around 1997, government waived custom tax on telephone equipment. These sets of equip are therefore only

subject to withholding tax and value added tax. This helped reduce costs of ICT equipment brought into the country such as computers and phones. Unfortunately, this waiver is effected only on fully assembled products which reduces its benefits to growth of the sector in terms of spares and network growth. The situation is further compounded by convergence of the ICT component industries.

2.5.5 Job Creation

While the actual number of directly employed staff in the sector has gone down due to increasingly higher productivity driven by competition, there has been high growth in the number of jobs in the sector. The growth is a result of the overall expansion of the sector combined with the outsourcing policies of the operators (MTN for example currently out sources to more than 3,000 people); the liberalisation of the provision of access services through internet cafes and telephone kiosks; the growth of the support services for the sector, including law, accounting, marketing, etc; and user equipment sales, installation and maintenance. The training sector has also generated a large number of jobs related to developing the human resource required to service the sector at all levels. This ranges from small scale institutions providing end user skills to large institutions providing university level education. Fig 2.4 shows the trend of the directly employed jobs as well as the overall trend in jobs generated by the sector since 1999.

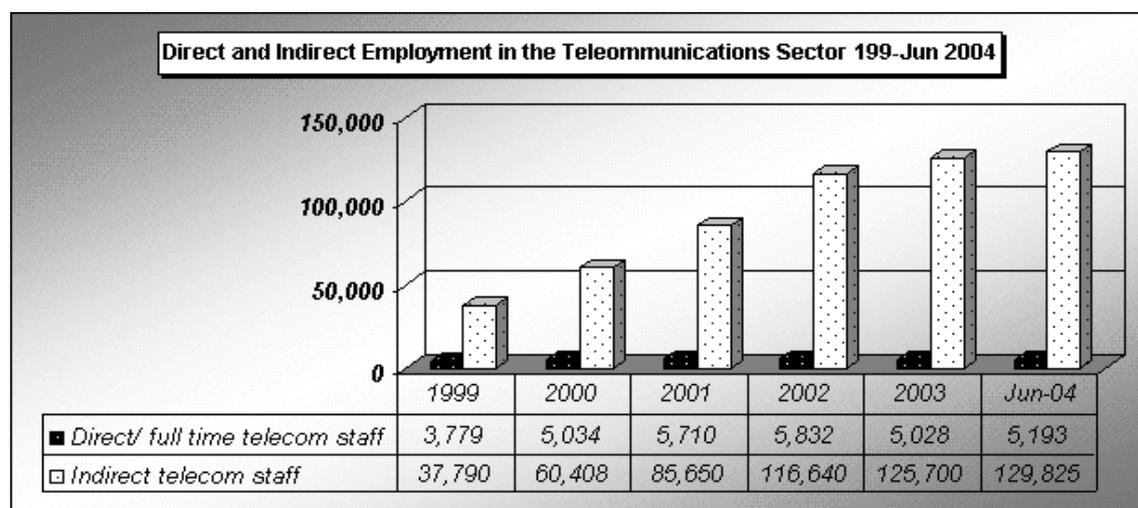


Figure 2.4: Sector Direct and Indirect employment

2.6 Access to Services

2.6.1 Coverage

The strategy adopted by the service providers relied on the rapid rollout of mobile services. National Telecommunications Operators have at the same time continued to invest and participate in projects to improve fixed line infrastructure availability countrywide, especially as the demand for broadband data infrastructure increases. More optical fibre has also been introduced into the under lying telephony infrastructure especially within the capital Kampala, and in interconnecting the major urban centres of Entebbe and Jinja that are 40km and 80km respectively from

Kampala. In other areas where terrain or security does not encourage use of the other systems like cable, Very Small Aperture Terminals (VSATs) have been deployed.

In the process of targeting the major cities, big and small towns, the three cellular service providers have created coverage over most of the heavily populated areas of the country. This is facilitated by the fact that Uganda is a comparatively small country. The GSM network now covers all the 56 districts of Uganda although it is mainly concentrated in the major urban centres and along the highways.

2.6.2 Voice telephony market

During the Limited Competition Period, only two operators, UTL and MTN, have had the right to provide basic telephony service and therefore, the only providers of fixed telephone service. Resale arrangements with these operators are permitted for other persons. Many of these resale providers have emerged in the bracket of public pay communications network services.

In the case of mobile, which is provided using cellular telecommunications systems, Celtel enjoys exclusivity along with the two NTOs by virtue of its licence issued before the start of the Limited Competition Period. This exclusive right in these markets came with the obligations of network expansion and quality of service to the operators. The Exclusivity limitation on competition in provision of basic services has been unfortunately interpreted to include Voice over Internet (Voice over Internet Protocol - VoIP and Internet Telephony), leaving this to UTL and MTN.

a) Customer growth

The Mobile market is the biggest and has proved to be the fastest growing market in Uganda during the past six years. There are currently almost 1,040,127 mobile customers as compared to about 71,056 fixed customers (Nov 2004). This growth in mobile has outstripped all projections by an order of magnitude. The leap of the mobile industry over the fixed can be attributed to a number of factors that include the following:

- The provision of fixed line telephony services was for many years associated with great inefficiency and poor customer service.
- Use of the prepaid model that provides the freedom to make calls (and spend money) according to need. UTL, based on the same marketing approach, also quiet recently introduced the prepaid package for their fixed line customers.
- The ease in getting a telephone connection, as well as the resulting mobility, have increased the attraction of mobile phone service over fixed telephony service. The big informal business sector in Uganda has particularly benefited from cellular services and has been a significant driver in user growth.

For wireline service, whereas the obligations of expansion, modernization and quality of service have largely been met, there has been no significant growth in subscribers. UTL remains the main provider of fixed lines, using the traditional wire line

technology (copper cable and optic fibre) as well as wireless technologies (CDMA). MTN on the other hand uses the GSM platform, optic fibre cables and fixed wireless to provide fixed line services.

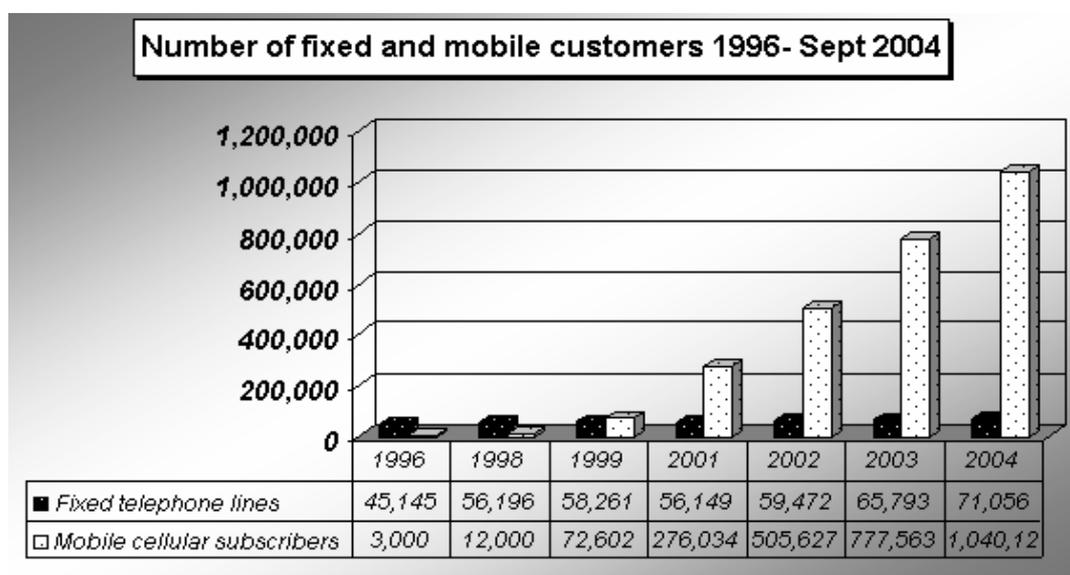


Figure 2.5: Number of telephone customers

It is important to put the numbers of customers in context: it is not uncommon to find people in the higher income brackets having at least three phones at their disposal (office, mobile, and home). In addition, cellular providers can sell services without sufficient-to-switch capacity.

b) Tariffs

Increased competition in mobile has forced an almost monotonically decreasing trend in local tariffs, increasing affordability. During this period, the strength of the shilling against the dollar has also generally decreased almost consistently especially over the last five years.

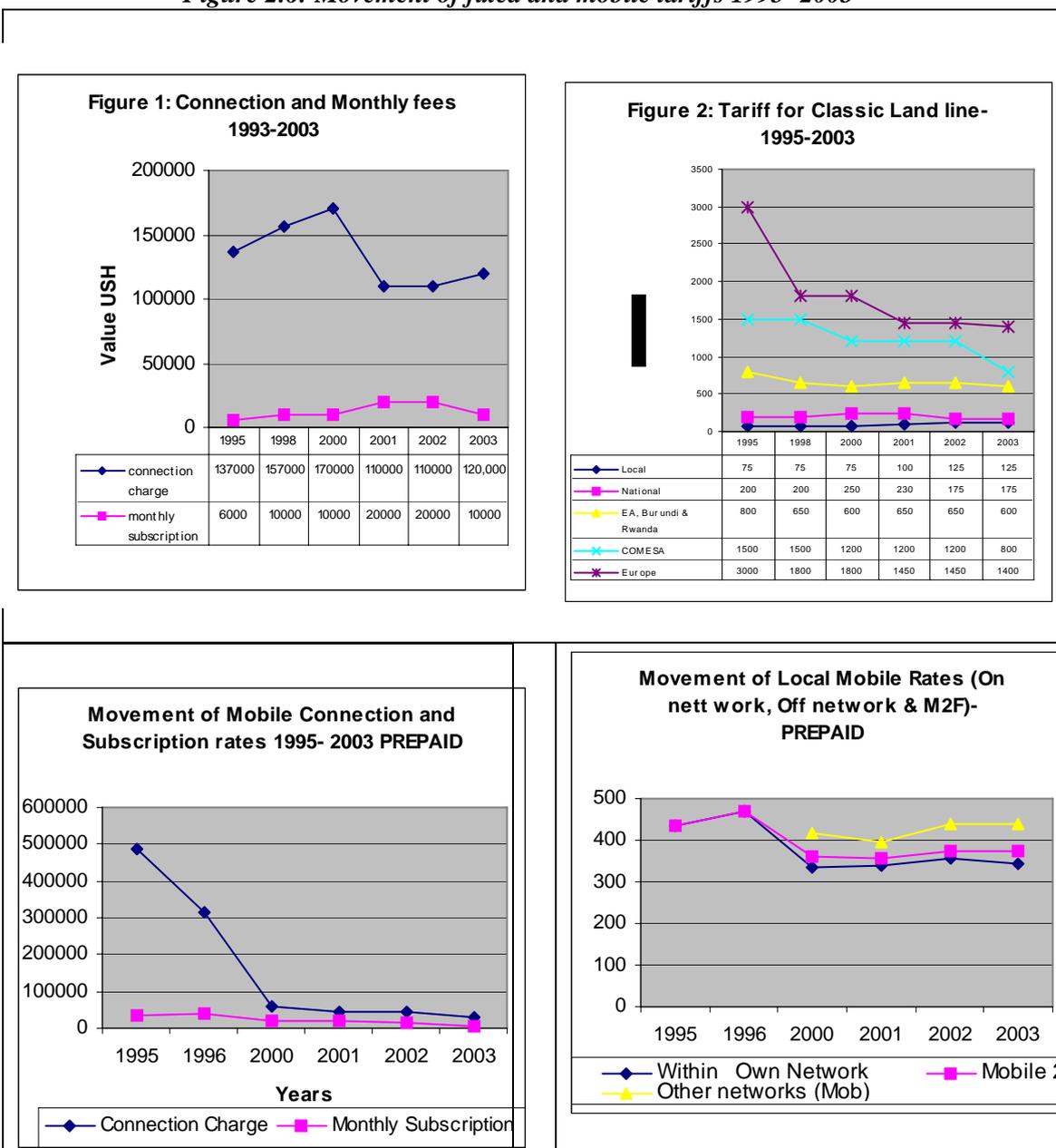
In the case of fixed telephony, there was a slight increase in the average local tariffs in the sector in 2001 arising from the use of GSM by MTN to provide fixed telephony services. UTL also carried out tariff rebalancing during the period 1994 to 1997.

International tariffs have on the whole also reduced as operators continue set more realistic termination rates and therefore enter into fairer pricing arrangements with international carriers and operators elsewhere. While there has been a price cap mechanism during the exclusivity period, competitive pressure on tariffs has been such that it was not really necessary to apply it: prices have been consistently under the price cap limit over the period.

Figure 2.6 shows a graphical representation of the tariff movement of both fixed and mobile services from the period 1995 to 2004. Despite the downward trend in prices,

affordability has remained a key issue for all service categories during the current policy regime. This is largely attributed to the general low level of income of the people in the country. *To date, the Average Revenue Per User (ARPU) is estimated at US\$20, and with a per capita income of US\$200, the number of persons who are willing to spend on average US\$20 on telecommunication service is really minimal (4.2%-uptake level), underscoring the need to design pricing incentives that address the affordability concerns in the next regime.*

Figure 2.6: Movement of fixed and mobile tariffs 1995- 2003



In order to assess the performance of Uganda’s fixed line tariffs within the East African region, a benchmark was undertaken in December 2003, and results of the findings indicated that Uganda’s rates were comparable in the region with international rates nearly two times lower than Kenya and Tanzania, mainly due to more

competition in this market [eight International Data Gateways (IDG) licenses compared to Kenya and Tanzania where IDG were exclusive to the national operator].

A similar benchmark was done for the mobile market, and the findings as shown in figure 2.8 indicated that Uganda's mobile tariff rates were the lowest for all tariff categories, with mobile international rates nearly two times lower than the rate in Kenya and Tanzania mainly due to greater competition in Uganda's mobile market. This analysis not only shows that operators in Uganda may be mindful of the affordability concerns (thus lowering rates) but also that competition in the market has facilitated the efficient pricing

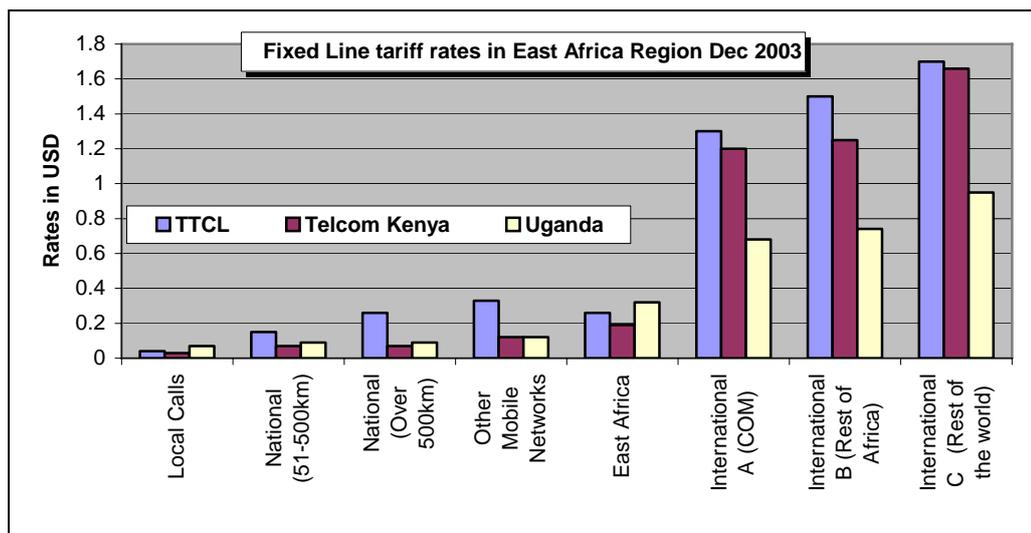


Figure 2.7: Fixed telephone service tariffs in East Africa - 2003

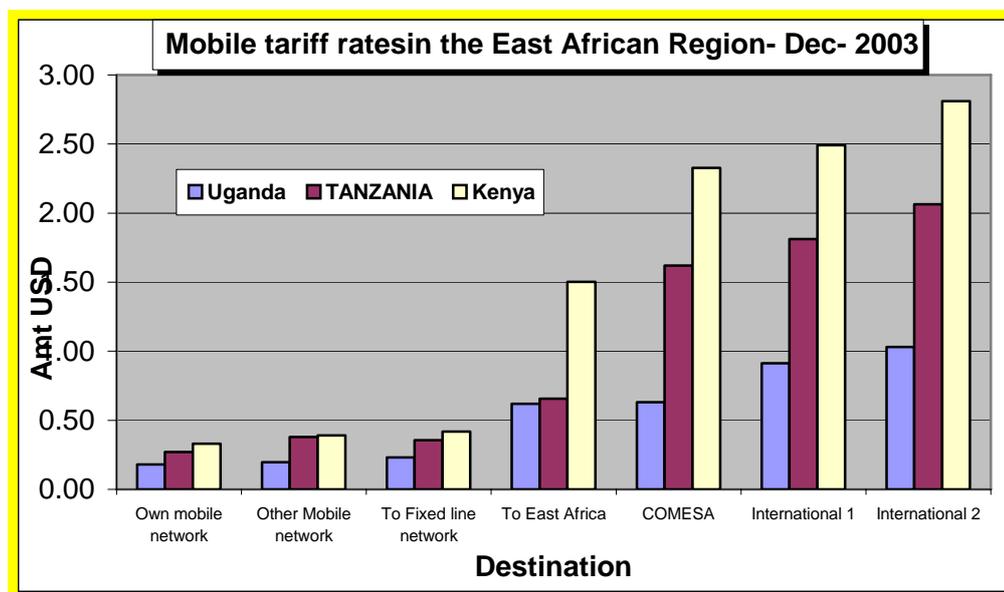


Figure 2.8: Mobile telephone service tariffs in East Africa - 2003

2.6.3 Internet and data market²

The Internet was commercially introduced in Uganda at about the same time as cellular telephony services, and has grown in size and numbers as a value added service with no market restrictions. Considering the liberal regulatory environment, its growth has remained below expectation in this current policy environment. The number of Internet Service Providers remained constant at 17 licensees for a while and the number of user accounts is growing at a very slow rate. From the point of view of bandwidth utilization, one of the key indicators of data usage, there is indication of growth in usage as shown in figure 2.7, but it is still very limited. It should be noted that the graph excludes local traffic exchanged via the Uganda Internet Exchange Point (UIXP), which was established in 2002. The low level of demand is largely attributed to a lack of awareness combined with high cost, limited points of access, and lack of content relevant to the needs of the majority of the citizens, and the still high rate of illiteracy. The growth in number of cafes has helped in making Internet more affordable and available to more people.

Internet access costs consist of the actual access cost plus the infrastructure cost in form of dial up or leased line cost. The access cost in Uganda, like in many other developing countries, is still high. Uganda is currently disadvantaged by the fact that its only available means of international connection is via satellite. Although the tariffs for satellite use have come down worldwide, this is still very expensive compared optical fibre cable (under sea and over land). Local loop access costs remain high for dial-up customers (tariffs are still time based), and this is compounded by the continuing slow speeds (typically less than 5kbps for dial up): it currently costs at least \$3 (telephone tariff only) to download a 1Megabyte file via a dialup connection. Leased lines for the larger clients are available but still expensive due to limited competition. UCC has recently taken a decision to deregulate the ISM band (subject only to emission level limits) to encourage the use of broadband wireless access.

The Limited Competition Period placed restrictions on licensing and provision of data gateway service outside of the already existing providers and NTOs. As a result, although more ISPs are able to enter the market, they cannot set up international gateways. This eliminates the flexibility not just for the new ISPs but also users to explore other internationally available price offers.

² See Fair Access to Internet Report (Uganda Case) by F. F. Tusubira and Irene Kaggwa

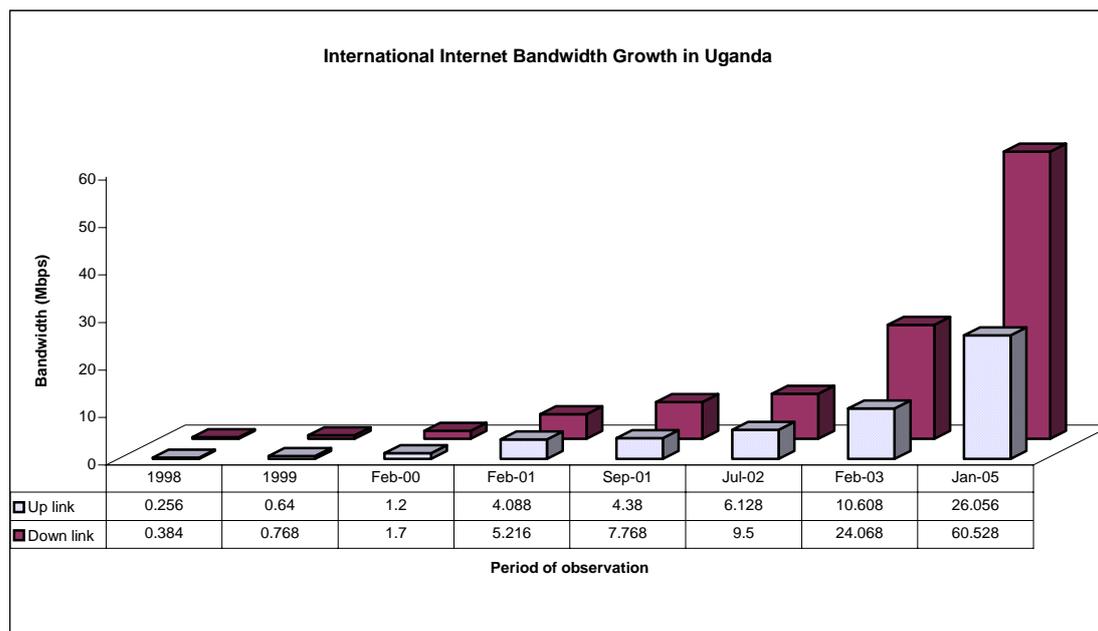


Figure 2.9: Operator and ISP provided bandwidth

2.7 Rural Communications Development

In order to ensure equitable geographic distribution of telecommunications services in the country, UCC developed and is implementing the rural Communications Development Policy. Having identified the challenges to the achievement of the 1996 Policy targets, the following common challenges and interventions were adopted under Uganda's Rural Communications Development Programme:

- Awareness and literacy – support a vanguard training institution in each district to create literacy and awareness about the potential of ICT; support district websites to demonstrate some benefits and use through relevant content;
- Access – Support an internet PoP in each district; set up a national IXP; ensure a phone in each sub-county (the smallest local administrative unit in Uganda)
- Affordability – give outright one off grants to small start-ups and partial one off grants to bigger rural operators; permit or require asymmetrical interconnection settlements in favour of rural telecomm operators.

The specific policy objectives were set as:

- (a) Ensure that all sub-counties with at least 5,000 inhabitants have access to the basic communications services by the end of 2005
- (b) Support the establishment of an Internet point of presence (PoP) in every district of Uganda by 2004.
- (c) Introduction of ICT use in at least one “vanguard” institution in each district by 2005

- (d) Promote provision of communications services as a profitable business (general).

A 1% levy on all telecom service providers is the main funding driver for the Rural Communications Development Fund. Development partners have also come in to give additional support, including:

- International Development Research Centre (IDRC) which supported the policy and strategy research (Canadian \$200,000);
- The World Bank which has given a grant of \$5 million (under the Energy for Rural Transformation Project) towards actual implementation.

Project implementation started in January 2003. Part of the collected levy (about \$1.2m) has been set aside as counterpart funding for the World Bank grant. Another \$965,600 has been committed and/or disbursed for: the setting up of Internet points of presence - PoP (\$107,100); public pay phones (\$146,000); ICT training centres (\$261,800); Internet cafes (\$259,300) and development of information portals (\$191,100). The resulting private sector contribution to date as a result of these subsidy incentives is estimated at \$ 850,000. The investment attracted per project category is as follows: Internet PoPs \$250,000; public pay phones \$148,200; ICT training \$288,000; Internet cafes \$162,000. Private sector contribution and investment is projected to rise to \$8m and above when the major components supported by the World Bank grant are implemented. Arithmetic shows that the \$6.273m of the RCDF to date will leverage an additional \$18m into RCD.

Through subsidies from the Fund to various companies, the following projects have so far been implemented:

- (a) 20 internet PoPs were established in various districts
- (b) Establishment of 26 district websites (www.dip.go.ug)
- (c) Establishment of 4 Internet cafes
- (d) Establishment of 3 ICT training centres
- (e) Provision of 66 public payphones

The following projects are in progress with most of them nearing completion:

- (a) Establishment of 30 district websites
- (b) Provision of Internet cafes in 11 districts
- (c) Establishment of ICT training centres in 45 districts
- (d) Provision of 200 public access points

The Rural Communications Development programme stepped ahead of the 1996 Policy in terms of setting numerical targets of public access points within the available minimal funding and recognised the growing importance of data and the Internet. Currently, the RCDF is sustained by the 1% levy off gross annual revenue of communications operators and service providers. The law however provides for a

maximum of 2.5% levy. The RCD programme though is still so much in its infancy in terms of implementation to evaluate its performance.

2.8 Micro-level Analysis of Access³

The macro-presentation used above does not inform the policy process about individual level utilisation and access to services, taking into account how, where and which services are accessed, at what cost, and for what purpose. The micro-level analysis on the other hand points out the real gaps in the policy and delivery strategy, especially with respect to rural communications development. The structure of the E-usage survey instrument enables desegregations of issues relating to equity of access (rural, gender, youth). The E-Usage survey also establishes a base line for the long-term impact and success of rural communications development interventions.

The survey was planned to cover 60 enumeration areas with 1,800 questionnaires. Of these, 1623 interviews (91.7% completed) were successfully completed, giving assurance of sufficiency of the returns as a basis for countrywide interpretation.

Three major settlement types were used: the capital city Kampala; the major urban, consisting of other large urban centres; and the minor urban/rural combining both small townships and the rural areas that radiate outwards around them. Table 4 summarises some of the demographic indicators.

Table 4: Some demographic indicators

Age	%	Gender	%	Income (Shs. '000)	%	Location	%
<10	39.0	Male	47.4	<100	90.6	Capital	4.3
10 - 14	14.8	Female	52.6	101 - 200	7.0	Urban	5.0
15 - 19	10.3			201 - 300	1.5	Rural	90.7
20 - 24	7.4			301 - 400	0.4		
25 - 29	8.4			>400	0.5		
30 - 34	5.2						
35 - 39	3.7						
40 - 44	2.5						
45 - 49	2.2						
50 - 54	1.7						
55 - 59	1.7						
>60	3.1						

In this study, the lowest income bracket in Uganda was taken as those earning less than Shs. 100,000/- (about \$55) per month. Figure 2.10 shows the locations of people in the lowest income bracket in terms of urban and rural.

³ See E-Usage Index Report and Analysis: This work has been funded by the Uganda Communications Commission (80%) and IDRC through the Research ICT Africa! Network, in which the local expertise is provided by the Directorate for ICT Support, Makerere University.

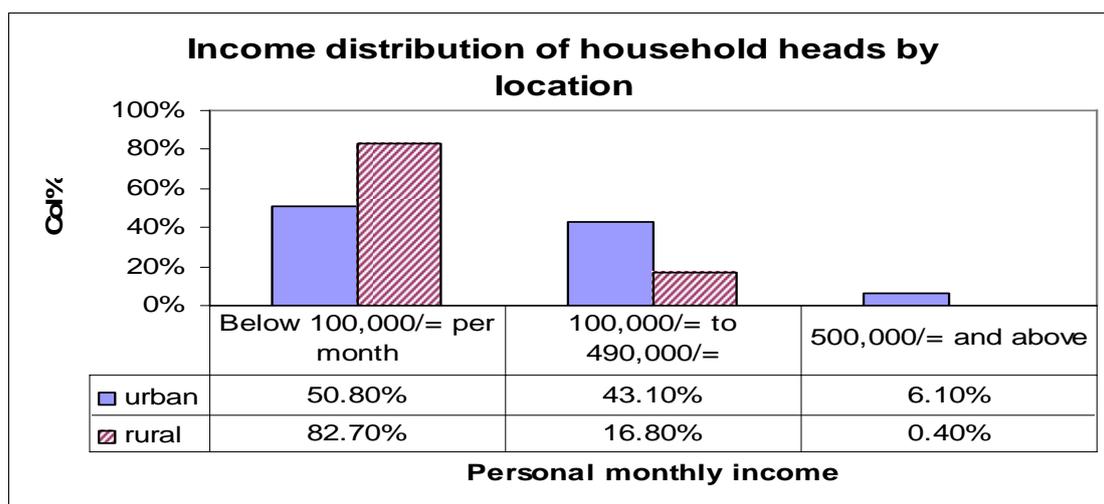


Figure 2.10: Household Income by location

About 83% of the rural household heads fall in the lowest income group, identifying rural areas as the key focus of supported intervention for communication development. A major part of the urban household heads (just over 50%) however also falls in the lowest income bracket, pointing to the need for intervention in urban areas as well.

Most of the population (about 54%) is below 15 years while 90% of the population is below 45 years, and only 3.1% is above 60 years. The high percentage of youth poses an opportunity in ICT utilisation. The increasing success of Universal Primary Education – addressing the literacy challenge that is also a challenge to ICT uptake – is reflected in the fact that 44% of the household members are attending school. The higher percentage of females is also becoming recognised as an opportunity through initiatives such as Unophone and MTN Village phones in which women provide community telephony services as a source of income.

2.8.1 General Penetration of Services

Figure 2.11 illustrates use of tele-services in urban and rural areas. The following are evident:

- Mobile voice telephony is the exclusive means of communication for the typical Uganda citizen, and there are hardly any fixed line services in people's homes.
- Public and private pay phones are the principal means of communication for the majority of citizens. In rural areas, only about 25% of the population utilise these services on a fairly regular basis. Regular usage in urban areas is just over 60%, mostly likely based on a combination of higher income, greater ease of access, and greater awareness.
- There is also no access using VoIP in rural areas, and it is still very limited in urban areas. This is partly a result of the current restrictions on utilisation of VoIP, lack of awareness and the absence of Internet in rural areas.

- There is almost insignificant access to and utilization of computers and the Internet, especially in areas outside the major urban centres.

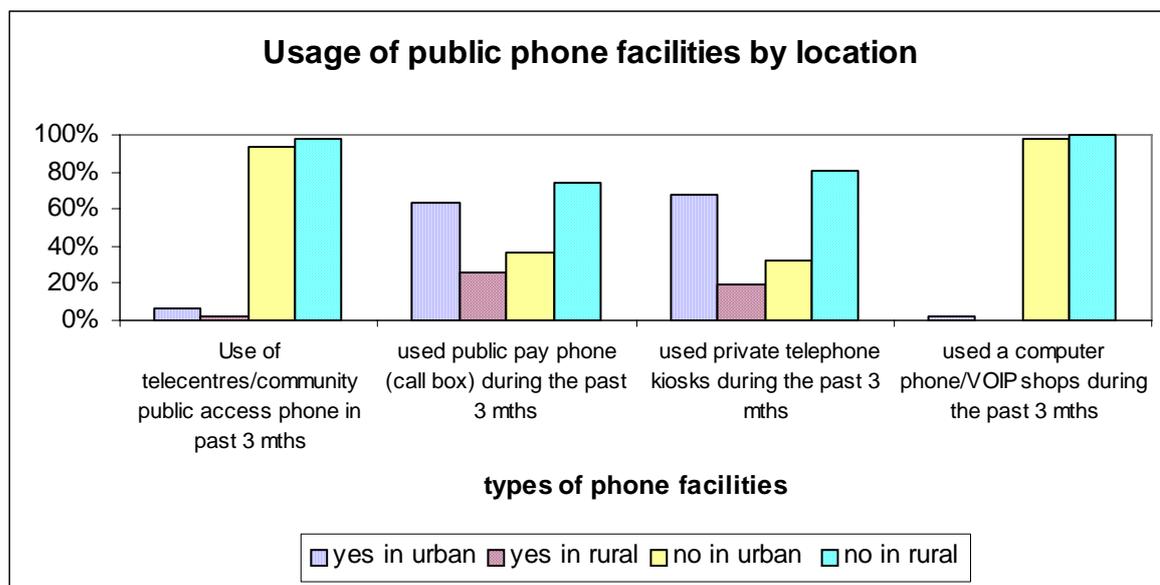


Figure 2.11: Use of telephone services by location

2.8.2 Public pay phone facilities

Figure 2.12 illustrates the usage of tele-facilities by sex. There is no significant gender divide in the utilization of tele-facilities, a reflection of the level of female empowerment that Uganda has reached.

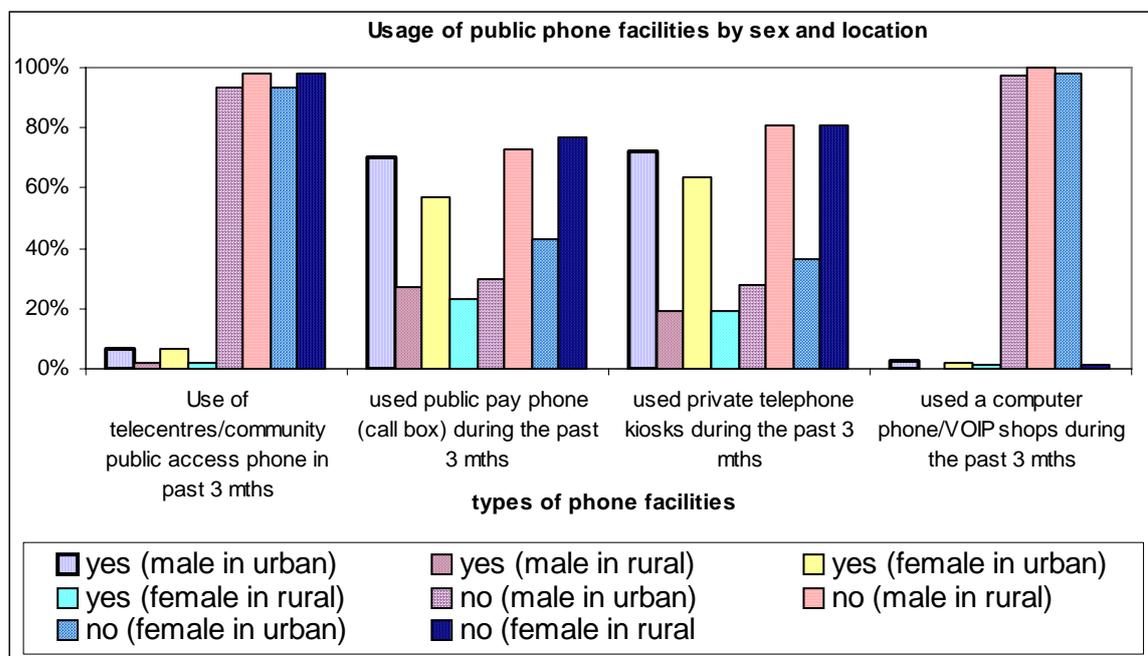


Figure 2.12: Usage of tele-facilities by sex

In the lowest income groups, both urban and rural, public payphones, and single phone private tele-kiosks are the principal means of telecommunication. Individual public phone expenditure in the rural areas is typically Shs. 1,500/- per month, while that in urban areas is typically 2,500/-.

2.8.3 Access to Electricity

A key factor in access to telecommunication services and especially utilisation of the Internet is access to electricity. Uganda has a fairly extensive transmission grid reaching most of the 56 districts. Access is however limited by the cost of stepping down from the transmission to the distribution voltage; carrying out internal house wiring, and paying for the connection. As a consequence, 97.7% of the rural and 59.9% of the urban populations have no access to electricity in their homes.

Urban populations can however always find a place to charge a phone or access the Internet within a fairly short time. Rural populations end up completely cut off, or requiring to undertake long journeys (up to one hour) to charge phones or get access to the Internet. The Energy for Rural Transformation (ERT) programme of the government of Uganda is trying to address this challenge, but progress is very slow. The current target is to connect at least 20,000 households to the grid each year for the next five years. The achievement of this target is not helped by the even bigger current challenge of a large energy deficit in Uganda that has taken precedence over rural electrification.

2.8.4 Mobile

While mobile is effectively the prevalent means of access, penetration is still very low. Ownership of mobile phones gave returns of 2% and 16.6% among the rural and urban populations respectively, with an overall penetration of about 3%. It is noteworthy that, without exception, all the enumeration areas had access to at least one mobile network, albeit poor in some of the cases.

There is significant usage among the lowest income group (earning less than Shs 100,000/- per month) as has been noted, but mobile phone ownership levels start becoming significant only above this group (0.9% in the lowest income group; 6.2% and 15.9% in the middle and high income groups). This underscores the fact that the actual cost of the mobile set is one of the key inhibitors to ownership, pointing to an area of intervention in promoting increased access.

Almost all the phones (99.7%) are prepaid, which is a user preference because it eliminates any paperwork and permits expenditure according to income pattern.

There is a significant gender divide in ownership of mobile phones at the household head level: 8.1% of the male heads have phones compared to 5.2% of the female heads. This is likely to have correlation to income.

2.8.5 Internet

The statistics from the survey paint a grim picture. Ownership of computers is still very limited, with only 3.5% of the urban population having access to computers in their home. The corresponding figure for rural (where the majority of the population lives) is 0.4%. The national penetration is 0.7%. Based on these figures there are only 182,000 computers for the 26 million people in Uganda.

For those who own computers in their homes, only about 10% have a working Internet connection, meaning that computers are not yet used as an aide to communication and information access. Among those who have Internet connection to their homes, the typical monthly bill is about Shs 85,000/-. Even if it was not for the other challenges, such a cost puts possession of an Internet connection to the home out of the reach of more than 90% of the population.

Only 4.2% and 0.1% of the urban populations respectively have email addresses, about 60% of which are free subscription and the rest paid subscription or office related. The national penetration is 0.4%, or about 104,000 people out of a population of 26 million.

It is interesting to note that households with female heads are twice as likely to have an Internet connection as household with male heads.

Low use of the Internet is a result of a combination of factors: lack of economically beneficial content (especially for the rural populations); the inherent low bandwidth and the unsuitability as well as high cost of the main (mobile) access platform; the very limited penetration of the fixed lines that would have provided the Internet access last mile connection; the still high cost of international bandwidth (the sharp fall in prices towards the end of 2004 has not yet filtered through to the small users); very low ICT literacy; and the shortage of computers.

2.9 Gaps to be addressed and Emerging Issues

The discussion above shows that while success has been achieved in all the objectives, the following areas of challenge remain:

- **Promulgation of a competition law:** Government needs to come up with a national Competition law. The sector competition regulations need to be fully enforced.
- **Removal of unnecessary barrier of entry to the market:** all players in the sector should be allowed to engage in provision of any service not dependent on availability of scarce resources. The basis for providing for a Limited Competition Period was first and foremost to attract credible investors in the Ugandan market, and secondly, to allow the licensed investors to recoup some of their investment in return of which they were required to fulfil the rollout

obligations that were specifically included in their licenses. These objectives have been sufficiently achieved. However, during the limited competition period, the restrictions in place have in some cases hindered technological advancement that could reduce cost of access and improve economic performance in the country such as VoIP and others satellite-access-dependent operations.

Ending the limited competition period is expected to result in licensing of more operators and consequently increased competition, which will yield the following benefits to the country:

- ✓ Further reduction in consumer tariffs
 - ✓ Increased investments in the sector
 - ✓ Increased penetration of services
 - ✓ Innovations in the provision of services resulting in use of more cost-effective technologies
 - ✓ Stimulate market growth
 - ✓ Increased tax base for government
 - ✓ Increase employment opportunities
 - ✓ Bring prices into line with costs
 - ✓ Encourage improvements in quality and responsiveness to customer demand
 - ✓ Impose efficiency with which resources are allocated
- **Setting up the Uganda Communications Tribunal:** Government needs to implement the law by setting up this tribunal to provide a rapid response to service provider grievances.
 - **Bringing Public Private Sector Partnerships on board:** Most of the more developed countries in the world liberalised and privatised their telecommunications sectors after achieving high levels of access (based on a Universal Service approach). Only 1 million lines (90% low bandwidth mobile) have been rolled out in Uganda in the last eight years, a rate of 125,000 per year that is already slowing down. 20% penetration (5million lines) would require more than 20 years at this rate. The time required to achieve sufficient penetration to spur national development to higher levels based on private sector investment is unacceptably long.

Government should intervene through Public Private Partnerships (PPPs) in selected areas, including the facilitation of the installation of a national high capacity telecommunication backbone, for example by providing duct routes for fibre optic backbone systems along the highways. This would tremendously reduce the cost of provision of a broadband national backbone and foster growth of ICTs in Uganda. Other cost effective techniques such as mounting of fibre cable along the electricity grid as well along the railway lines should

also be explored. This calls for integrated planning and implementation of all Government infrastructure projects across the various sectors.

- ICT awareness programmes through out the country should be strengthened and fully supported by all sectors of Government as well as private sector.
- To continue with the policy of technology neutral licensing regime taking into account the convergence of services on a common transport platform.
- **Government intervention on increasing affordability of telecommunications services:** Access in the rural areas to basic telephony services is still unacceptably low. Mobile provides a potential for rapid achievement of nationwide access if the key barriers – mainly the initial cost of the phones and the absence of a convenient means of re-charging – are addressed through PPPs. Government also needs to recognize the mobile prepaid platform as the basic means of communication and lower tariffs by removing the 10% excise duty currently imposed on prepaid airtime.
- Utility, in terms of affordability, and individual telecommunication expenditure being an investment rather than a cost (i.e., shifting from the predominant usage of phones for social transactions to usage for transactions that have economic value) need to be addressed.
- The grey area surrounding Internet telephony needs to be addressed.
- **Internet Access:** Uganda is de facto not using the Internet, and this poses the greatest challenge to strategy in the new sector policy: it is economic suicide to permit this situation to continue in the global knowledge society. Access to the Internet across the entire country is far below what would be expected with the often praised policy and regulatory environment in Uganda. While this was not addressed directly in any way in the telecommunications policy and objectives, it is a critical sphere where action is required by the government, the regulator as well as the private sector. The following issues need to be addressed:
 - The connection of Uganda via optical fibre to the global Internet backbone. Uganda is “e-landlocked,” without direct access to the international fibre backbone. Until this is addressed, Ugandans will generally be locked out of the global knowledge society. Access to the international fibre backbone is a national strategic priority that cannot be left solely to private sector investment.
 - Generation and dissemination of relevant content.
 - Development of the national data backbone.
 - Addressing the cost of local access as well as encouraging local assembly of computers to bring down costs
 - Greater integration of ICT skills training at all levels of education

- Promoting regional peering within first East Africa and the whole of Africa.
- The need for government to become the number one user and advocate of the Internet in Uganda.

CHAPTER 3: THE MACRO ENVIRONMENT

3.1 Introduction

In establishing policy and policy goals, consideration of the macro environment responds to the question: “*What is it in the social, economic, legal, and political environment that needs to be taken into account in order to ensure that policy is responsive and will be successful?*” Policy can then be shaped, and specific policy objectives formulated in a realistic and achievable manner.

3.2 The Macro Environment

3.2.1 *The Political Environment*

In the national context, all aspirations should be driven by the long-term national vision. Governments are elected on the basis of their proposed policy in the different sectors, in which case government policy is really the medium term strategy (stretching over the term of office cycle) through which government steers the country towards the national vision.

Political thinking is a major factor in government policy and will therefore directly impact any sector policy that government will adopt in response to the national vision. This underscores the importance of understanding political thinking when formulating policy. It also points at the inherent risks in any policy, since, in many cases, change of government may mean a change of policy.

A specific factor to consider in Uganda’s case is the proposed regional tiers: to what extent, if these are accepted, will they have the autonomy to determine sector policies in their regions? To what extent will we end up with a situation like United States of America, where the Federal Communications Commission and the Regulatory Commissions of the different states have to co-exist?

The current government has demonstrated a remarkable ability for pragmatism: It has never hesitated to make a complete reversal in policy where it was felt the desired outcome was not being achieved. For example, *when repeated efforts to reform state owned enterprises failed, government abandoned the effort and turned to privatisation*. This was probably the most significant demonstration of policy reversal and the pragmatic nature of the NRM government.

The performance of the telecommunications sector since reform and privatisation; the increasing reference to it by investors who meet the President; and the potential for outsourcing that now seems to have caught the President’s imagination have elevated

the ICT sector to a current level of recognition that it has never enjoyed. Full advantage has to be taken of the prevailing political visibility to ensure sector growth.

Emerging issues and considerations from the political environment

- ***The Macro-economy: continuation of reliance on the private sector and private investment:***

The liberalization program had been successful in reducing inflation, curbing the budget deficit and spurring growth. The economy of Uganda has shown a steady recovery since 1987 when the Government of Uganda put into place an Economic Recovery Program Plan with assistance from the World Bank and the International Monetary Fund (IMF). Many public enterprises have been privatised or are scheduled for privatisation. Government is increasingly reducing its role in service provision and leaving it to the private sectors.

It is almost certain that the current government or any other government will continue favouring policies and strategies that promote the involvement of the private sector in a competitive environment.

- **An increasing role for public private sector partnerships**

Over the last few years, there have been many cases, and these continue, where government has not hesitated to directly support the private sector in ventures considered critical to national development. The public has debated the modalities of such intervention, but government continues to strongly defend the approach. The acute power shortage after the Bujagali debacle has also given shock treatment to government: It is realized that pure private sector funding has many limitations, is unreliable in critical national investment, and does not march to the planned pace of national development.

It can be assumed that, provided a proper case of national interest can be made, government is likely to accept policy and strategy that call for PPPs.

- **Will the regional tiers control utilities?**

While the issue of decentralization is good and brings down administration closer to the people, it in a way affects the development of certain sectors. Local authorities in certain instances help the private sector in their quest to spread services to the people (e.g. telecommunications), they in other instances bring undue pressure upon operators who on top of paying the licence fees for operations, need to meet other specific conditions as demanded by such local authorities.

It must nevertheless be realized that local government or regional governments have a valid claim on the income generated in their jurisdiction. This has been recognized in

the Electricity Act (that came after the Communications Act) where there is provision for generating utilities to contribute revenue to local government, and where the law permits the national regulator to delegate some of its functions, under specified conditions, to local government.

At regional level, having one East African parliament by 2010 is also being considered under the East African Community. Joint policy and legislative framework would be likely to ensue. In 2004, the East African Community finalised a protocol establishing a Customs Union among the three countries. This is likely to result in adjustments in domestic consumption taxes such as an increase in VAT. This would have an effect on tariffs within the sector.

It would be prudent for the revised sector policy and strategy to take due cognisance of government's desire to devolve powers to local and regional governments. It would however be strongly recommended that during the Master Plan period of 2005 – 2010, sector regulation remains centralised to ensure that the national vision of universal access to promote human development is realised.

- **Consolidation of telecommunication technology, information technology, broadcasting, as well as electronic and print media under one political umbrella**

One of the challenges facing government is harnessing the synergy of telecommunications, information technology, broadcasting, as well as electronic and print media under unified political guidance. The implications of convergence make this a necessary decision, if only the political will of government could be marshalled to make it. It can be argued that such synergy will never be fully realised until this is done, and indeed disagreements and lack of coordination at the technocrat level will be a continuing reality until the political level is addressed. This is the current situation where political oversight of telecommunications is vested in the Ministry of Works, Housing and Communications; oversight of information technology in the Ministry of Finance and Economic Planning, and oversight of the broadcasting and media sectors in the office of the President.

It is likely that sooner than later, any government in power will take the decision to bring converge ICT under single political guidance, preferably in its own Ministry, or in a parent ministry where it can be given the prominence necessary to help in transforming Uganda into a knowledge society.

3.2.2 The Legal Environment

The Communications Act established the rights and duties of the state, enterprises, institutions, organizations and natural persons in the use and management of means of communication, in the establishment and management of communication networks, in

the rendering of communication services as well as the general responsibilities for violation of the law.

Progress has been made in the telecommunications sector through the promulgation of appropriate regulations under the Communications Act. These are:

- The Communications (Establishment and Management of the Rural Communications Development Fund) Regulations of 2002.
- The Uganda Communications (Enforcement Procedures) Regulations of 2004

Other regulations have been adopted by the Commission and are awaiting promulgation:

- The Communications (Fair Competition) Regulations
- The Communications (Postal Service) Regulations
- The Telecommunications (Tariffs and Accounting) Regulations.
- The Telecommunications (Interconnection) Regulations
- The Communications (Practice and Procedure) Regulations
- The Communications (Telecommunications and Radio Communications Equipment Type Approval) Regulations.
- The Telecommunications (Licensing) regulations
- The Communications (Radio) Regulations
- The Communications (Universal) Service Regulations

Other Legislations relating to the Field of Telecommunications

- **The Press and Journalist Statute 1995 (Cap 105)**, The Statute extended Article 29(1) (*Freedom of expression*) of the Constitution to the print media. It also created the Media Council, the National Institute of Journalists of Uganda and a Disciplinary Committee within the Media Council. The Council is responsible for regulating eligibility for media ownership and requires journalists to register with the National Institute of Journalists of Uganda.
- **The Electronic Media Statute, Cap 104**, Laws of Uganda provides for the establishment of the Broadcasting Council that licences radio, television and video rental licences. The purchase, use and sale of television sets is also subject to licensing by the Council.
- **The Access to Information Bill, 2004**, Proposed Act that makes provision for access by individuals and/or corporations to information of interest relating to a public company.

Proposed Legislations relating to the field of Telecommunications:

- **The Electronic Transactions Bill** creates a light handed regulatory regime for electronic transactions. It facilitates the development of e-commerce in Uganda by

broadly removing existing legal impediments that may prevent a person from transacting electronically because of a lacuna in the law. The bill makes equivalence for functional equivalence, thus paper transactions and electronic transactions are treated equally.

- **The Electronic Signatures Bill** makes provision for the use of electronic signatures in order to ensure that transactions are carried out in a secure environment. It attempts to do this through provisions relating to the establishment of the Public Key Infrastructure for authenticity and security of documents.
- **The Computer Misuse Bill** – All computer operations are susceptible to computer crimes and our current legal system does not recognize computer crimes thus the importance of a legislation to provide for computer crimes.

Emerging issues from the current Legal Framework

After an evaluation of the current regulatory framework and the related laws and bills, it has been noted that the present law was designed to regulate the sector within the transition period, incepting from absolute dominance to effective competition. However, the legal framework currently in force seems to address only the current situation and to employ only minimal mechanisms designed to ensure effective competition. Therefore the new regulatory framework should be aimed at establishment of well developed and elaborate mechanisms, tailored to ensure functional and efficient competition in all the telecommunications market, with the allowing for, without exception of any possible future technologies or services. *The framework should thus be capable of flexibly addressing the unpredictable markets with many more participants.* Other concerns under the current law on communications that were highlighted for action in the defining process of the new telecommunications policy include:

- The repealing of the Uganda Posts and Telecommunications Corporation Act, Cap 107, Laws of Uganda that established the defunct Uganda Posts and Telecommunications Corporation,
- The amendment of the Major licenses to reflect the expiry of the Exclusivity period and to clarify all the “grey” areas within the Major and minor licenses. *An area of specific public interest, because it has been a major grey area, is making it clear that there is no legal or regulatory prohibition that stops the use of internet telephony.*
- Radio Frequency Management harmonization of the laws, to wit, Cap 104 and Cap 106 to clearly lays out the frequency allocation responsibility and avoid conflict of roles between Uganda Communication Commission and Broadcasting Council.

Should there also be unification of political oversight and consequent regulatory convergence, this contention will cease.

- The establishment of a Tribunal to provide a forum for arbitration and settlement of disputes in a speedy and reliable manner vis a vis a regular judicial system which may not be equipped to provide a quick response, especially in a more liberalized environment.
- The new legal framework should duly address the phenomenon of convergence (employ different networks for the provision of essentially the same type of services and convergence of equipment used by consumers).
- Formulation and application of new definitions of terms especially in respect to convergence.
- To put in place a compliance mechanism independent of persons, Government and is effective, efficient, appropriately funded as well as resourced.
- Review the Commissions jurisdictions /powers in respect to setting of fines.
- Address Intellectual Property Law issues unique to Telecommunications

3.2.3 The Economic Environment

Uganda's real Gross Domestic Product (GDP) growth has averaged at 6.1% for the past seven years since 1997/98 to date. This high growth is largely attributed to the sweeping economic reforms that started in 1987 by Government of Uganda characterized into three phases. The first phase was the stabilization and rehabilitations of the economy in which fiscal reforms such the budget reforms⁴ exchange rate, interest rates and capital accounts liberalization were undertaken. This was accompanied by important institutional reforms such as decentralization, abolition of state-owned marketing boards, restructuring of the public administration and privatisation of public utilities. Most recently, government has been focusing on programs that are pro poor, improving public service delivery and removal of impendent to private sector growth through the redefinition of the Poverty Eradication Action Plan and the elaboration of the Plan for Modernization of Agriculture (PMA).

⁴ Public spending was contained within the overall budget framework, revenue collection machinery was transferred to the newly established Revenue Authority.

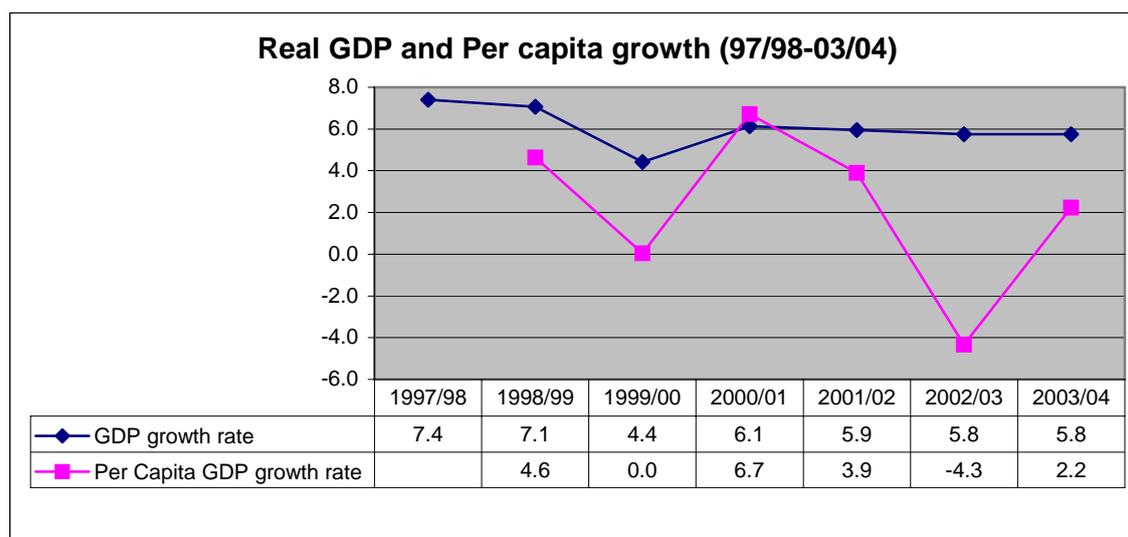


Figure 3.1: GDP trends in Uganda

Although GDP growth has averaged at 6.1%, actual growth rates have been declining since 2000/01 as shown in figure 3.1 above. Further, considering an average GDP growth of 6.1% with average population growth level of 3.4%, actual per capita income growth has averaged at only 2.2% in the last seven years as shown in table 4. This has not been significant enough to match up with the rate at which the shilling has been depreciating (10%) and as a result, the country's per capita income in US dollar terms has declined from USD 315 in 1997/1998 to USD \$ 200 in 2003/04, the lowest in the East African region.

Table 5: KEY FINANCIAL INDICATORS FOR TELECOM SECTOR DEVELOPMENT

YEAR	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Total GDP (million Shs)	6,887,567	7,397,883	7,921,208	8,271,703	8,778,468	9,300,693	9,836,221
GDP growth rate	7.4	7.1	4.4	6.1	5.9	5.8	5.8
Per Capita GDP (Shs)	335,020	350,554	350,716	374,248	388,846	371,986	380,305
Per Capita GDP (USD)	312	283	241	225	221	206	200
Interest Rates- Lending	21.4	20.9	21.6	22.9	21.7	17.6	19.3
Interest Rates- savings	3.8	4.1	3.9	4.0	3.5	2.0	2.0
Interest Rates- Bank Rate	10.6	7.6	7.4	13.2	6	5.3	9.1
Exchange rate	1073	1240	1454.83	1664.5	1755.56	1806	1904
Inflation rate	5.8	0.2	5.8	4.5	-2.0	5.7	4.8

Absolute poverty that had registered some decline in the late 90s, has been increasing from 33% in 2000 to over 39% in 2003/04⁵. This therefore calls for exceptionally poor distributional shifts where all programs and activities undertaken by government are directly targeted at increasing the incomes of the poor. *Extension and education*

⁵ Uganda Poverty Participation Assessment Project report 2003

services to provide information and skills for increased productivity, coupled with rural finance and improved market access should be prioritised as these have been highlighted as the major causes of poverty in Uganda.

In terms of prices and market developments, Uganda has managed to sustain inflation at single digit figures for the past seven years as shown in figure 3.2 below, largely due to a tight monetary and budgetary regime. However, the country is currently faced with a very high budget deficit resulting from very low tax ratios and growing expenditure on Military and PEAP related activities. This means that most of the budget activities of the country are implemented with the support of development partners (contributed more than 50% of total national recurrent and capital budgets 2003/04 budget) and therefore maintaining macro-stability is becoming more greatly influenced by donor/aid support. *This reality has to be taken into account when proposing public sector support for private sector led investment in the telecommunications sector.*

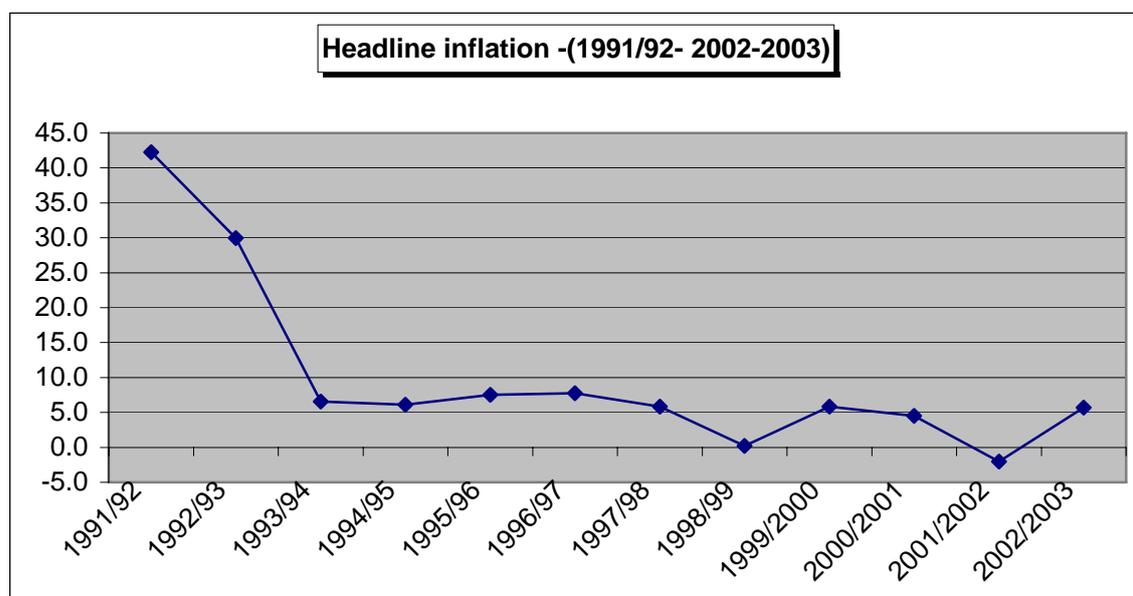


Figure 3.2: Inflation in Uganda

The financial market has become much stronger with the improvement in the supervisory capacity of bank of Uganda. Volume of bank deposit has increased over the four years as the public's confidence in the banking sector returns following the collapse and closure of 4 banks in the late 90s.

However, due to the fact that they are still very few banking institutions in Uganda, which limits competition in the sector, commercial bank and interest rates have remained stagnant over the years as shown in figure 3.3 below. High lending rates limit the ability of people to acquire investment capital while very low saving rates result into low volumes of deposits as people prefer to consume than save. With this cycle effect, the cost of acquiring capital in Uganda has remained high limiting the

ability of people to invest in productive domestic project and therefore compounding the country's poverty situation.

The capital market of the country has also not progressed as it had been projected in 1996 when a framework to regulate the capital markets of Uganda was instituted. Currently, there are five equity companies and one bond listed on the Uganda securities exchange of which two of the equities are cross listed from the Nairobi Stock exchange⁶ Volume of trade has remained low, compounding Uganda's problem of capital acquisition. The country therefore is in need of more financial institution especially small-scale financial institutions and an improvement in capital market to ease the problem of high cost of capital in the country. *The telecommunication policy 2004 should be designed to encourage ICT application in the financial sector, to translate into lower costs and increased volume of transactions in the financial sector.*

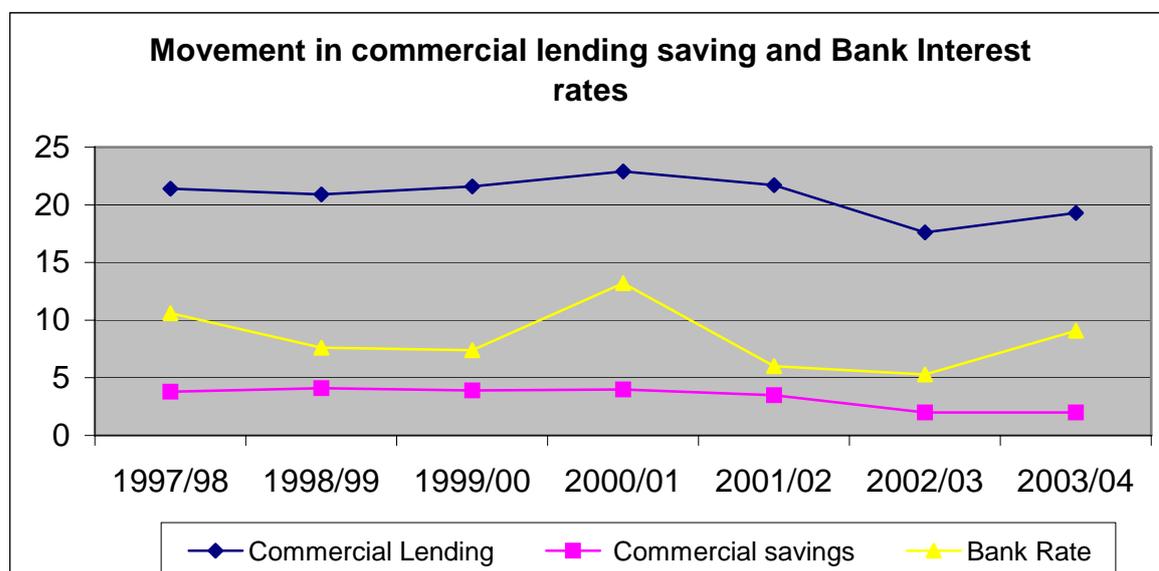


Figure 3.3: Bank rates

Uganda's financial sector remains weak, characterized by very high lending rates and low saving rates and the capital market has been slow in growth, adding to the problem of high cost of capital in the country.

Emerging issues from the economic environment

- The proposed telecommunications policy should be cognizant of Uganda's economy and specifically be designed to address those activities or sectors that translate into substantial and sustainable income generating avenues such as agriculture as well as SMEs.
- Extension of education services to provide information and skills for increased productivity, coupled with rural finance and improved market access should be

⁶ Capital Market Authority www.cmauganda.co.ug

prioritised in the new policy as these have been highlighted as the major impendent to growth in Uganda.

- The telecommunication policy 2004 should be designed to encourage ICT application in the financial sector, to translate into lower costs and increased volume of transactions in the financial sector.

3.2.4 Human Development and Gender Issues

Uganda's Population grew at an average of 3.4% between 1991 and 2002 and this high growth rate is attributed to an increase in fertility rate⁷ coupled with a decline and child mortality rate⁸. Population density is estimated at 126 persons per square meter and if this growth rate persists, the population of the country shall be about 32 million with a density of 162 persons per square meter in the next ten years.

A high population should provide market and demand for ICT services. This can only be possible if that population is highly informed with a good purchasing capacity to influence the market and generate effective demand. This may not be true for Uganda's population whose income distribution is highly skewed with real per-capita growth rate declining and the level of education and awareness remains low.

Table 6: Population

Population Mid Year Estimates and Projections			
Years	Urban	Rural	Total
1996	2,591,029	17,470,471	20,061,500
1997	2,732,878	18,019,522	20,752,400
1998	2,878,135	18,589,065	21,467,200
1999	3,026,742	19,179,858	22,206,600
2000	3,178,692	19,792,808	22,971,500
2001	3,333,990	20,428,710	23,762,700
2002	3,492,682	21,088,418	24,581,100
2003	3,654,630	21,771,570	25,426,200
2004	3,820,367	22,481,633	26,302,000
2005	3,989,787	23,218,113	27,207,900

Source Uganda Bureau of Statistics

Uganda's population is young with children under the age of 15 years constituting more than 50% of the total population. This should be seen as positive as various researches have indicated that adoption and usage of ICT services is most ubiquitous among young generations⁹, and therefore demand, usage and application of ICT's in

⁷ Fertility rate in Uganda from 1995 – 2000/01 was estimated at 6.8 children per women. This is attributed to among others the early age at which women in Uganda begin child bearing.

⁸ Infant mortality rate per 1000 live birth was 100 in 1990 and dropped to 79 by 2001

⁹Wakabi Wairagala et al, 2004, "Redressing the Digital Divide, A profile of Uganda's Internet and ICT Usage"

Uganda should have a positive trend in the years to come. In terms of gender distribution, Uganda's population has more female than male at a ratio in the region of 96 males to 100 females. However, research indicates that women's awareness and usage of ICT's is nearly three times less than that of male counterparts a situation that should be addressed under the new telecommunications policy.

Emerging issues from the human development and gender issues

- The policy should be designed to target the youth to be drivers of ICT in Uganda.
- The fact that the majority of the population is below 15years, and noting that there is high uptake of mobile phones among the younger generation, combined with Universal Primary Education and a more ambitious outlook in the population introduces a very important market dynamic: There is going to be an upsurge in the demand for mobile telephone and internet access services over the next five to ten years. Marketing strategies that promote almost free sets and capitalise on usage will be able to tap into this market.
- To address the Gender gap by encouraging and designing specific programs to promote ICT usage by female.

CHAPTER 4: INTERNATIONAL EXPERIENCE AND LESSONS FOR UGANDA

4.1 Introduction

In this Chapter, the approach to policy and its impact, from countries selected on a basis that gives beneficial lessons to Uganda, are discussed. Regional and International Initiatives that impact on or give good lessons to Uganda are also considered.

4.2 Country Analyses and Critiques

The following countries were considered based on the factors indicated:

- Germany – one of the pioneers of full liberalisation in Europe. By the beginning of 2004, German ICT industry was the 3rd largest market worldwide after the US and Japan and the biggest market in western Europe.
- India – had, as of 2004, the 5th largest telecommunications network in the world and the 2nd largest among the emerging economies of Asia. It is also the fastest growing market in the world, with ICTs as a major export of the country
- Kenya – experience from within the region.
- Malaysia – converged regulation from 1998. Malaysia has one of the more advanced telecommunications networks in the developing world, utilising modern technologies such as optic fibres, satellites, wireless transmission, digitalisation and satellite services.
- Mauritius – has had recognised positive strides in ICT development on the African continent
- Rwanda – trying to leapfrog and landlocked like Uganda
- Singapore – become an important business and telecommunications services hub for the Asian region. It is also an example of government intervention in driving the country forward in ICTs.
- South Africa – has the largest and most advanced telecommunications network in Africa and has attracted large-scale international investment.

Table 6 gives a comparison of these countries in relation to some of the factors that affect telecommunications penetration.

Table 7: A comparison of country indicators that impact growth of telecom sector

COUNTRY	CONTINENT	AREA (sq km)	POPULATION	LITERACY	GDP per Capita (2003 est.)	POPULATION BELOW POVERTY LINE
Germany	Europe	357,021	82,424,609	99.00%	\$27,600	
India	Asia	3,287,590	1,065,070,607	59.50%	\$2,900	25% (2002 est.)
Kenya	Africa	582,650	32,021,856	85.10%	\$1,000	50% (2000 est.)
Malaysia	South East Asia	329,750	23,522,482	88.7%	\$9,000	8% (1998 est.)
Mauritius	Africa	2,040	1,220,481	85.60%	\$11,400	10% (2001 est.)
Rwanda	Africa	26,338	7,954,013	70.40%	\$1,300	60% (2001 est.)
Singapore	South East Asia	692.7	4,353,893	92.50%	\$23,700	
South Africa	Africa	1,219,912	42,718,530	86.40%	\$10,700	50% (2000 est.)
Uganda	Africa	236,040	26,404,543	69.9%	\$1,400	35% (2001 est.)

Source: CIA World Factbook

4.2.1 Germany¹⁰

Until 1989, telecommunications services were provided by the government-owned Federal Telecommunications and Postal Offices (Deutsche Bundespost). Like UPT&C, this was divided into banking, postal and telecommunications with Deutsche Telekom providing the telecommunications services.

The first steps in liberalisation of the telecom sector occurred in 1989 when satellite radio communication and mobile communication were opened up in compliance to European Union mandates. In 1996, Deutsche Telekom was privatised and later, on 1st January 1998, Germany opened up to full liberalisation. This consisted of lifting the restriction on number of fixed network licences except where radio spectrum is used in which case beauty contest or auction is used. The licensing regime in Germany consists of two main categories of licences:

- a) Licences for the operation of transmission lines:
 - ✓ for mobile radio services for the public by the licensee or other parties (*Licence Class 1: Mobile Radio Licence*);
 - ✓ for satellite services for the public by the licensee or other parties (*Licence Class 2: Satellite Licence*);
 - ✓ for other telecommunications services for the public (*Licence Class 3*);
- b) Licences for voice telephony on the basis of self-operated telecommunications networks (*Licence Class 4*) excluding the right to operate transmission lines.

ISPs and other service providers (resale) do not require a license (notification only), but need network license (class 3) for operation of the IP-backbone. In Germany, VoIP services are not classified as voice telephony and therefore do not require a license from RegTP. Like ISPs, only a notification to RegTP is needed.

Sector specific and general instruments with regard to market definition, market analysis and thresholds coherently exist to ensure fair competition in the sector. DTAG, the dominant incumbent, has however, been successful in blocking or at least delaying implementation of pro-competitive regulatory decisions through invariable appeals to the courts.

In the same year of 1998, the Ministry of Post and Telecommunications was dissolved and the Federal Ministry of Economics and Technology created by law to deal with market liberalisation and telecommunications policy. An Independent regulator, RegTP (the Regulatory Authority for Telecommunications and Posts) - overseeing telecommunications and postal market development, was established on the 1st January 1998 in accordance with the 1996 Act. Although the new European Commission Framework under the 1999 review seeks to respond technological neutrality and convergence, fronting a single legal framework for all electronic communications markets, under the German Constitution, telecommunications is a

¹⁰ Regulatory Authority for Telecommunications and Posts www.regtp.de and “Best practices of privatisation, liberalisation, regulation and its economical effects” by Dr. Annegret Groebel, RegTP

federal matter while federal states, are responsible for broadcasting regulation. This therefore makes it difficult for Germany to have a single converged regulator.

The sector reforms resulted in a dramatic drop in prices for national calls with a resultant increase in call minutes due to an increase in number of voice providers. Today, depending on the time of day at which the call is made, prices are 6% the price before 1998. Considering international tariffs on busiest links, the tariffs have also dropped by more than 96% from the cost at the beginning of 1998. The total number of service providers in Germany in 2004 stood at 2,133. The mobile penetration has itself grown to about 80%. The limitation in number of mobile providers arising out of scarcity of frequencies has been minimised through by presence of mobile virtual network operators. The flexibility in the market enables consumers to have a wider choice in service providers and prevents unnecessary barriers to interested investment out of the economy. The decision to enter the market or not is therefore left to the investor. The wider selection of providers also reduces consumer frustration due to companies deciding to wind up operations. This consumer choice has been further facilitated by the availability of Carrier selection (call by call) and carrier pre-selection in the fixed network. The sector with a total of 226,400 employees at the end of 2003 has had a net growth of 2% in employment between 1998 and 2003. The Government has also been supportive of the development of high-speed communications infrastructure and services.

Universal services are a minimum set of telecommunications services for the public in respect of which a particular quality has been defined and to which every user shall have access, irrespective of place of residence or place of work, at an affordable price. The 1996 Act assumes that market participants will provide Universal Services voluntarily. The 1997 Universal Service Ordinance is therefore only if operators do not secure the nationwide availability of the identified services. The Universal Services Ordinance sets out these services as including ISDN voice telephony, availability of telephone booths, directory assistance and directories. RegTP can oblige the regionally dominant license holder to provide the universal service. If the respective services can only be provided at a loss, all operators of the applicable service with a market share of at least 4% of the relevant segment of the market then contribute towards the necessary compensation.

4.2.2 India¹¹

Previously the government-managed Department of Telecommunications (DoT) was the provider of telecommunications services. DoT was corporatised in 1986 into Videsh Sanchar Nigam Ltd (VSNL) handling international operations and Mahanagar Telephone Nigam Limited (MTNL) for telephone services, cellular and later Internet access in Delhi and Mumbai.

Telecom reforms in India were set off by Government's aim of attracting investment and improving India's competitiveness in the global market. This called for improved telecommunications services. When liberalising was being introduced in India, the

¹¹ Department of Telecommunications www.dotindia.com

market was divided into circles with each state forming a circle and smaller states combined to make a single circle. These currently stand at a total of 23 service areas consisting of 19 telecom circle service areas and 4 metros services areas. The process of liberalisation started in 1992 with creating a cellular duopoly within each circles. By 1999, 8 cellular operators had been licensed in the 4 metros and 14 in the 18 circles.

The 1994 Telecom Policy introduced duopoly competition in fixed circles within all the circles. However, this was not achieved because DoT was both operator and regulator at the time causing controversy in the licensing process. As a result, out of 6 circles licensed, only two started. Other markets like VSAT for closed user group and paging were also opened up to competition.

In October 1998, VSNL's monopoly in provision of Internet services was ended. ISP licences were then issued on a non-exclusive basis. Private ISPs were permitted to set up their own international gateways using satellite and submarine cable landing stations upon successful vetting by a government committee. Utilisation of infrastructure of railways, State Electricity Boards, Power Grid Corporation was also permitted. This boosted growth in number of private sector ISPs to 385 as of 31st March 2004 with 60 clearances for ISP gateways. With the lifting on restriction of Internet telephony after April 2002, 121 ISPs have been permitted to provide Internet Telephony. Subsequently, ISPs could provide the service with restriction to prevent them then from operating like basic service providers. VSNL was partially privatised in February 2002 reducing government involvement in the market.

The resultant licensing structure consisted of licences for basic telephone service, national long distance, international long distance, infrastructure provider, cellular mobile service, Internet service, VSAT, radio paging, radio trunking, and GMPCS. The 1999 Policy was developed cognisant of convergence. Firstly, introduced technology neutrality in cellular and fixed services. It also introduced further competition in cellular operators towards having four operators (due to limitation in spectrum) within each circle. Currently, 78 licences have been issued in 23 service areas. In 2001, basic services were opened up to unlimited entry in each circle. The 1999 Policy also allowed cable service providers to provide two-way communications over their networks. However, the use of CDMA technology by fixed operators providing services with mobility capability at much lower prices than the cellular operators who paid higher entry prices challenged the competition framework vis-à-vis technology neutral licensing. In November 2003, two new licence categories were introduced through an addendum to the 1999 policy: unified licence for provision of telecommunications services using any technology; and unified access services covering basic and/or cellular services using any technology. This in itself is not sufficient and necessitated regulatory intervention on tariff and revenue sharing to resolve.

The 1999 policy also recognises the need to balance universal service with the need for high level services necessary for the country's economic needs. Under India's universal service programme, the objectives are to provide voice as well as low speed

data to the uncovered villages; achieve Internet access at all district headquarters; and have telephone on demand in rural and urban areas. Resources for meeting these are generated through a Universal service levy (USL) at a prescribed percentage of the revenue earned by the operators holding the different licences. The implementation of Universal Service Obligation (USO) for rural and remote areas is through all Basic service providers who are supposed to be reimbursed from the funds collected by way of USL. Other service providers are also allowed to participate in USO provisioning subject to technical feasibility.

India penetration of fixed line service has grown from 0.8% in 1994 to 3.94% in 2004 while mobile customers have grown to 33.69 million subscribers, which translates to a mobile penetration of 3.10%.

In terms of regulation, the 1885 Telegraph and telephone Act granted powers to the Communications Ministry and DoT to govern the sector. In March 1997, Telecom Regulatory Authority Act of India (TRAI Act) introduced an independent regulatory agency Telecom Regulatory Authority of India (TRAI) set up to give directives to service providers, make regulations, notify tariffs and adjudicate disputes while DoT retained the licensing and overall policy making role (The service provider role was separated from DoT to a corporate body called Bharat Schanchar Nigam Limited (BSNL) in 2001). In 2000, TRAI Act was amended resulting in a transfer of TRAI's adjudicatory role to a Telecom Dispute Settlement and Appellate Tribunal in May 2000. In January 2004, the Government of India issued a notification that changed the scope of the expression 'telecommunication services' under the 1997 amended Act to include the broadcasting services and cable services, thereby entrusted TRAI with the basic task of regulation of cable and broadcasting services in the country. Despite this, there is a Ministry of Information and Broadcasting while the ministries of information technology and communication were merged into one ministry, Ministry of Communications and Information Technology, in 2000.

The Monopolies and Restrictive Trade Practices Act (MRTP) of 1969, which applied to private sector undertakings, covered concentration of economic power at detriment to the public, monopolistic practices and restrictive trade practices. A new Competition Act of 2002 was establishment with a Commission to prevent practices having adverse effect on competition, to promote and sustain competition in markets, to protect the interests of consumers and to ensure freedom of trade carried on by other participants in markets, in India.

4.2.3 Kenya¹²

Kenya Posts and Telecommunications Corporation (KPTC) was created after the dissolving of EAC. This was then split in July 1999 and formed the government-owned Telkom Kenya (TKL) that has enjoyed a monopoly since then in telecommunications particularly in local telephony in Nairobi, long distance telephony, international gateway and services as well as Internet node and backbone. Although provision was made under the Kenyan Postal and Telecommunications Sector Policy

¹² Communications Commission of Kenya www.cck.go.ke

Statement of January 1997 (amended in 1999 and December 2001) for competition to TKL in other provincial boundaries outside of Nairobi, this never took effect, leaving TKL with a de facto monopoly over the whole country. TKL however, like all other players in the market, could not provide VoIP.

The 2001 Policy also provided for an initial duopoly in mobile between the subsidiary of TKL and a private company. Unlike TKL monopoly that was to last to 2004, no end date was provided for the cellular duopoly and therefore extends to when full liberalisation is achieved in this market. Other value added service markets like Internet service were opened up although in the case of Internet, a restriction existed in International access only through TKL. VSAT operators were restricted to providing services only within the national boundaries of Kenya.

The above licensing regime has been sighted as a major hindrance in the growth of the telecom sector in Kenya not just in the area of fixed line service but other market segments like Internet and cellular as well whose operations were strongly tied in to TKL's monopoly. Between 1999 and 2004, fixed line subscriber connections grew from 296,400 to 327,069 representing an annual growth of 1.87%.

A new regime has kicked in after the gazetting on 16th June 2004 of Section 5 (5) of the Kenya Communications Act of 1998 that made granting and/or deliberate maintenance of monopoly or duopoly telecommunications licence status illegal. In the new phased approach to fully liberalised market, equal licensing opportunity to all players is made on a first-come-first-served basis subject to demonstration by applicant of adequate capacity to provide the services for which licence is sought. Under the new regime, cellular operators will be allowed to have their own international gateways; additional Internet Backbone and Gateway Operators, Broadcasting signal distributors and commercial VSAT operators will be licensed and will be allowed to carry any form of multimedia traffic such as VoIP; and public data network operators will be allowed to establish international gateways for data communications services. An intention has also been expressed to move to market structuring based on distinct and technology neutral market categorisation in the next two to five years.

In the area of regulation, the Communications Commission of Kenya (CCK) was established in February 1999 in accordance with the 1998 Act to regulate telecommunications, radio communications (including broadcasting) and postal services. CCK's role in relation to broadcasting only extends in as far as frequency management is concerned. On 30th June 2004, all ICTs were brought under a new Ministry of Information and Communications taking over from Ministry of Transport and Communications as well as Ministry of Tourism and Information.

Competition in Kenya is governed by the Restrictive Trade Practices, Monopolies and Price Control Act, Cap.504 of the Laws of Kenya in 1988. This law applies to all sectors including state enterprises. The provisions of the Competition Law have engendered the regulation of Mergers, Unwarranted Concentrations of Economic Power and Restrictive Trade Practices. Most competition cases are handed between the

Office of the Commissioner for Monopolies and Prices, the Restrictive Trade Practices Tribunal and the High Court of Kenya.

Kenya is in the process of developing a universal access program.

4.2.4 *Malaysia*¹³

Prior to 1987, telecommunications services were provided by Jabatan Telekom Malaysia (JTM), a government department under the Ministry of Energy, Telecommunications and Posts (METP). In the telecommunications sector, reforms began in 1983 when the government allowed the private sector to complement JTM in the supply of terminal equipment such telephones and teleprinters. Private sector involvement was looked at as a way to relieve administrative and financial burdens and at the same time improve the efficiency in service delivery. Further liberalisation in other telecommunications markets took place in other areas such as Value Added Networks (1984), radio paging (1985), and mobile cellular (1988). Between 1993 and 1995, five additional licenses to operate in the fixed line market were approved. The Internet market was liberalised in 1996.

In the beginning of the reforms, the Telecommunications Act of 1950 was amended to make JTM the regulatory authority responsible for the supervision of the telecommunications sector. Decisions pertaining to licenses continued to be made by the Ministry of Energy, Telecommunications and Posts (METP). In November 1998, the Malaysian Government restructured the METP into the Ministry of Energy, Communications and Multimedia (MECM). The enactment of the Communications and Multimedia Act 1998 (CMA 1998) and the Malaysian Communications and Multimedia Commission Act 1998 (CMCA 1998) resulted in the formation of a new regulatory authority for the sector, the Malaysian Communications and Multimedia Commission (CMC) in April 1999. Later in 1st November 2001, MCMC also took on postal services and certification agency of digital signatures. CMA 1998 also allows for setting up of an Appeal Tribunal to review CMC decisions and direction when the need to do so arises.

The ministry definition of convergence is “the progressive integration of the value chains of traditional communications and content industries within a single value chain based on the use of distributed digital technology”. In the current licensing regime in which licences are based on the principle of technology and service neutrality, a licensee is allowed to undertake activities that are market specific. The 1998 CMA provides for the following categories of licences, which are issued on individual or class basis depending on the level of regulatory control:

- ✓ *Network facilities providers* - who are the owners of facilities such as satellite earth stations, broadband fibre optic cables, telecommunications lines and exchanges, radiocommunications transmission equipment, mobile

¹³ Malaysian Communications and Multimedia Commission www.mcmc.gov.my, Ministry of Energy, Water and Communications Malaysia www.ktkm.gov.my and “Telecommunications Reforms in Malaysia” by Cassey Lee

communications base stations, and broadcasting transmission towers and equipment.

- ✓ *Network service providers* - who provide the basic connectivity and bandwidth to support a variety of applications.
- ✓ *Application Service Providers* - who provide particular functions such as voice services, data services, content-based services, electronic commerce and other transmission services.
- ✓ *Content Applications Service providers* - who are special subset of applications service providers including traditional broadcast services and newer services such as online publishing and information services.

Effective 1st April 2000, provision of PC-to-PC base Internet telephony is not subject to licensing. However, in the case of VoIP (Phone to phone based through PSTN), provision of the service requires an Applications Service Provider Individual licence.

The sector has experienced constant growth with penetration growth in fixed lines from 8.1% around 1990 to 68.18% in 2004.

Prior to 1999, TMB was the only network operator required to fulfil universal services obligations. The CMA 1998 provides for the establishment of a Universal Service Fund (USF) to improve network facilities and services in underserved areas and for underserved groups within the community. (USO). All licensed network operators are required to share the cost of providing universal service and are potential providers of the services.

Malaysia has a general policy to create a competitive environment through liberalisation, deregulation and privatisation. However, there is no specific law on competition although studies of the need for such a law. The legislative mandate for competition regulation in the sector comes from the CMA 1998. Regulations have been developed through legislation, which prohibit anti-competitive conduct such as dominant position and lessening of competition. Prior to the CMA 1998, previous telecommunications legislations did not have any provisions on anti-competitive conduct.

4.2.5 Mauritius¹⁴

Mauritius Telecom (MT) is the incumbent provider of telecommunications services in Mauritius having been granted a monopoly under the 1999 Policy to provide all international telecommunications services and fixed voice within Mauritius until 31st December 2003. A duopoly was provided for until 1st January 2004 in provision mobile services between MT's affiliate and a private company that had launched back in 1989. MT's was partially privatised (40%) to France Telecom in November 2000 and its exclusivity legally terminated in December 2002 thereby opening the market to full competition in 2003. Government ownership in MT is 41% (1% for sale to an employee shareholding scheme) and the State Bank of Mauritius owns the remaining 19%.

¹⁴ Ministry of Information Technology and Telecommunications <http://telecomit.gov.mu>

Mauritius has attained a penetration of 28.35% in fixed telephony and 37.93% in mobile. Mauritius' vision is to make ICTs the 5th pillar of Mauritian economy. This strife is facilitated by the existence of several relevant legal instruments such as the Electronic Transaction Act of 2000, the ICT Act of 2001, Computer misuse and Cyber crime Act of 2003 and recently, the Data protection Act of 2004. Further to these, a new detailed telecom policy was issued in February 2004. Under the 2004 policy, Internet telephony service was permitted subject to terms and conditions stipulated by the regulatory authority. In addition, ISPs were allowed to set up international gateways again subject to specific licence conditions. The ensuring licensing regime is to provide full and open competition in a technology-neutral telecommunications sector. The issue of educating local people on benefits of ICTs is one of the main elements of the universal access strategy in the 2004 Policy.

A national Competition Bill was developed but is yet to become a law. The 2004 policy however lays down strategies for ensuring fair, effective and sustainable competition for the liberalised market that include:

- ✓ issuance and review code of practice for good conduct of business of operators with a view to preventing such anti-competitive practices.
- ✓ Proper regulatory reforms to guard against risks of cross-subsidization, predatory pricing, anti-competitive use of information and discriminatory practices as well as to create sufficient separation and minimize the potential for cross-subsidization, collusion or other anti-competitive actions between the separated companies.

An ICT Appeal Tribunal was set up by Government in accordance with ICT Act 2001.

The 2004 Policy puts forward a licensing framework with four categories of licensable activities: network infrastructure provider, network services provider, network application service provider and private networks. Authorisation for these is either through class licensing or individual licensing depending on the level of regulatory control.

Previously, regulation of the sector was done by Mauritius Telecommunications Authority, which was established by the Telecommunications Act of 1998. Subsequently, an Information and Communications Technologies Act of 2001 came into place and replaced the former regulator with Information and Communications Technologies Authority that is responsible for information and communications services. ICTA falls under the Ministry of Information Technology and Telecommunications. Broadcasting is however handled by the Independent Broadcasting Authority as provided for in the Independent Broadcasting Authority Act of 2000. The 2004 Policy indicates that Government will introduce legislation for the creation of single regulator for info-communications.

ICTA has the statutory duty under the 2001 Act to establish and manage a Universal Service Fund. ICTA is in the process of establishing a universal service programme with the following scope of services proposed:

- ✓ Telecommunication services in outer islands
- ✓ Specialist services for people with disabilities

- ✓ Internet access and services
- ✓ Higher bandwidth services
- ✓ Public radio-based maritime distress and safety services

The proposal looks at having contributions to the fund by network infrastructure providers.

4.2.6 Rwanda¹⁵

The Government's vision is to transform Rwanda into an Information Rich Society and Economy with a specific objective under the 2000 ICT Policy to develop a highly competitive value added service sector with potential to develop into a business hub of the region.

Fixed line services in the sector are provided by the government-owned Rwandatel (being privatised) and a private company specifically focusing on providing access in remote areas where basic infrastructure has been a big handicap using narrowband VSATs. A single private company that has been operating since 1998 provides mobile services.

Rwanda has taken on an interesting mixed strategy to attract investment. Although the market is not fully liberalised, open policies exist on deployment of new technologies. As an example, for the meantime, unlike other countries, VoIP is treated as not being illegal until the law says so.

In January 2002, Rwanda Information Technology Authority (RITA) was established to facilitate national and sectoral ICT. However, the sector is regulated by multi-sectoral regulator called the Rwanda Utility Regulatory Agency (RURA), which started operations in January 2003. It is responsible for communication, transport, energy (gas & electricity), water and sanitation.

For universal access, the telecom operators and Internet Service Providers contribute 2.5% of their annual revenue to a Universal Access Fund, which is then utilized to provide basic telephone or Internet access in rural areas.

4.2.7 Singapore¹⁶

Prior to 1992, Telecommunications Authority of Singapore was the operator of both postal and telecom services as well as policy making government agency. In 1992, Singapore Telecommunications (SingTel) was spun off and corporatised. SingTel was permitted to provide mobile cellular services and granted exclusive rights in provision of public basic domestic and international telecommunications services until 31st March 2007. Competition was later introduced in 1995 with licensing of another mobile provider and three public mobile radio paging operators to commence in April 1997. During the same year, two Internet public access providers were licensed in competition with SingNet. In 1996, it was announced that SingTel's exclusivity in

¹⁵ "Rwanda ICT Sector Performance Review" by Albert Nsengiyumva and Rwanda Utility Regulatory Agency www.rura.gov.rw

¹⁶ "Effective regulation. Case Study: Singapore 2001" by International Telecommunication Union and Info-Communications Development Authority www.ida.gov.sg

basic telecommunications services was to be cut short to March 2002 and decision taken to license 2 additional operators from April 2000. In April 1998, StarHub was granted a licence for public basic telecommunications services under a duopoly from 1st April 2000 to 1st April 2002. A third public cellular mobile telephone service provider was also licensed and Internet Access service provision further liberalised in the same year. In January 2000 however, full competition in the sector was brought forward from 1st April 2002 to 1st April 2000.

To ensure fair competition, all service providers and operators are bound for a sector specific Code of Practice whose provisions are not only technology neutral but has an in built review mechanism.

Singapore's pragmatic strife towards developing a world-class telecommunications network capable of providing high quality telecommunications services at competitive prices led to establish Singapore One (S-One) in 1997, an ATM (asynchronous transfer mode) broadband network so that every home can have a broadband connection.¹⁷ This is a commendable move by a government spearheading drive forward that was only fouled by innovation of cheaper technology than ATM (such as Internet Protocol) for such networking and the lack of competition to the network.

Prior to 1st April 1992, Telecommunications Authority of Singapore (TAS) which was formed in 1972, was both operator (of both postal and telecom) and policy making government agency. This became an independent agency in 1992, responsible for regulation and promotion of telecommunication industry. National Computer Board (NCB) was also in place to promote and develop information technology. On 30th November 1999, in recognition of the overlap of the bodies, TAS and NCB were collapsed into a joint body, Info-Communications Development Authority (iDA) from 1st December 1999. Singapore Broadcasting Authority (SBA) – responsible for regulating and promoting broadcasting remained separate and handles content regulation (including Internet) in Singapore.

The sector consists of two categories of licences:

- ✓ Facilities based licences – these are awarded on an individual basis for infrastructure including undersea cable landing facility
- ✓ Services based licences – issued on individual or class basis depending on service e.g. Internet telephony

All service providers and operators in the sector have to adhere to a Code of Practice for competition whose provisions are technology neutral and has a built in review mechanism. Ministry of Trade and Industry (MTI) to introduce national competition law in Singapore. The proposed Competition Bill encompasses three broad classes of anti-competitive behaviour anti-competitive agreements, abuse of market power, and anti-competitive mergers.

¹⁷ “Lessons in Broadband Adoption from Singapore” by Peny Hwa Ang

4.2.8 *South Africa*¹⁸

Sector reforms in South Africa date back to the 1996 White Paper on Telecommunications. The one of the strategies for achieving the policy objectives was to partially privatise the incumbent (Telkom SA) and grant it a five-year exclusivity in fixed line in exchange for an obligation to double the fixed line network while having liberalisation in other areas. In 1997, Telkom SA was partially privatised with 20 percent being sold to SBC and 10 percent to Telecom of Malaysia. In mobile, three operators have been granted licences, two of these issued in 1993 and the third in 2001. The five-year period expired in May 2002 but Telkom SA has enjoyed an extended monopoly due to delay in licensing the second national operator. Telkom SA also provided the mandated access but this was not at an affordable cost. With competition from mobile, Telkom SA also carried out tariff rebalancing that resulted in decline in long distance and international tariffs but increased local tariffs. This increase in local tariffs in turn cause a decrease in growth of the Internet market among the dial up customers, even forcing some to share a single dial up account.

The penetration of fixed lines grew by 2.5% from 1997 to a penetration of 12.8 per 100 inhabitants in 2000 then fell by 5.6% between then and 2002. In the case of mobile, the penetration of grew by 61% from 1997 to a penetration of 12.1 per 100 inhabitants in 2000 then had a further growth of 43.5% between then and 2002 to bring the penetration to 61% in 2002.

Although the Value Added Network (VAN) services are open, these have had to use Telkom SA telecommunications facilities to provide their services in competition with Telkom SA, itself a player in the VAN services market. Specifically, in accordance with the 1996 Act and 2001 Amendment Act, telecommunication facilities have to be acquired from PSTN. This includes Wi-Fi whose use is legitimate for company private local area networks but illegal for public usage or commercial hotspots unless a VANs licence has been obtained and Telkom SA network used even for the wireless link between the hotspot owner and the end user. The ISP market consists of different tiers of operation; five tier 1 who manage at least some of their international bandwidth and the whole of their national networks; a number of tier-2 who buy bandwidth from tier-1s; and tier-3 who are virtual providers with no networks of their own. As a result, there has been little non-Telkom SA growth within the VANs industry. A ministerial policy directive issued in September 2004 to take effect in February 2005 permits VANs to offer voice services and to acquire their own facilities from other providers than Telkom SA or the SNO.¹⁹ Private Telecommunications Networks (PTNs) shall also be permitted to re-sell their excess capacity. Mobile operators shall be at liberty to utilise any facilities providers for their links or even deploy their own.

The Universal Services Agency (USA) was established under the 1996 Act to help ensure more widespread access to all telecommunications services (voice, fax, Internet

¹⁸ "South African Telecommunications Sector Performance review" by Alison Gillwald and Sean Kane, August 2003 and Independent Communications Authority of South Africa www.icasa.org.za

¹⁹ "South Africa 2004 ICT Sector Performance Review" Alison Gillwald and Stephen Esselaar, LINK Centre Public Policy Research Paper No 7.

etc.). It operates under the regulatory and policy framework enshrined in the Act as amended in the year 2001 and ministerial Policy Directions issued in the same year. The agency is required to be mandated to manage a Universal Services Fund (USF). The USA is also tasked with the function of creating an enabling environment, building capacity and to make necessary interventions in under-served communities for the promotion of universal service and access. The universal service and access are mainly provided through the establishment of telecentres to be run in partnership with members of the local community in the rural areas. These have been expanded to include telecentres in school cyberlabs. One of the objective of the sector was a diverse shareholder base through promotion of SMMEs and historically disadvantaged groups and individuals. Subsequently, under the 2001 Telecommunications Amendment Act, small businesses may apply on invitation by the Minister of Communications for licences to provide services and facilities to under-served areas. The Under-served Area Licensee (USAL) are required to provide telecommunications services, including Voice Over Internet Protocol (VoIP), fixed mobile services and public pay telephones. Long distance calls must however be transported by any of the national fixed and mobile operators and through the trunk network of Telkom, or in future the SNO, to the three potential international gateway licensees (Telkom SA, Sentech and the SNO). These licences previously suffered delay due to lack of clear state funding or guarantees critical for their operation.

A Convergence Bill has been developed in South Africa. In light of convergence of broadcasting and telecommunications, subsequent to 2001 amendment Act, a third gateway was issued to the state broadcasting signal distributor through a carrier of carrier and multimedia licence with restriction on direct connection of subscribers and offering voice services.

South African Telecommunications Regulatory Authority (SATRA) took over regulation of telecommunications from Telkom SA in 1996 and handed this over to Independent Communications Authority of South Africa (ICASA) in July 2000. The Independent Broadcasting Authority (IBA), on the other hand, had been established on 31 March 1994 to promote the development of public, private and community broadcasting services, which are responsive to the needs of the public. ICASA, a merger of SATRA and IBA, therefore regulates both telecom and broadcasting.

South Africa's Competition Act 89 of 1998 (and amended by Competition Amendment Act, No 35 of 1999, Competition Amendment Act, No. 15 of 2000, Competition Second Amendment Act, No. 39 of 2000) provides for the establishment of a Competition Commission responsible for the investigation, control and evaluation of restrictive practices, abuse of dominant, position, and mergers; and for the establishment of a Competition Tribunal responsible to adjudicate such matters; as well as the establishment of a Competition Appeal Court. One of the rulings made by the Competition Commission on the telecom sector has been that in February 2004 in which Telkom SA's behaviour towards other VANs providers, that involved abuse of its dominant position through activities such as imposing unreasonable conditions for it to provide telecommunications services to VANs, was deemed anti competitive.¹⁹

4.3 Lessons Learnt and Recommendations for Uganda

From the experiences of other countries, the following recommendations are made:

- a) The sector should be opened up to full competition with minimal barriers to entry but with regard availability of scarce resource such as spectrum, numbering and right of way. However, provisions should be made to allow area operators so that those interested in operating in a niche market are allowed to participate.

Any interested parties should be allowed into their market of choice within the sector, increasing competition to existing operators and service providers. This benefits consumers especially in tariffs as competition normally results in price reductions as well as greater innovations both in technology utilisation and service packing. An increase in number of players also means more choice to consumers. With reduced tariffs, the level of affordability is increased leading to higher teledensity and increased government tax revenue.

This approach of full liberalisation has been taken by a number of ICT prospering countries like Germany, India, Kenya (moving to), Malaysia, Mauritius, Singapore, and South Africa (effective February 2005).

It is important that niche markets are provided for in the licensing regime to enable local or small investors with great entrepreneur skills and market innovative ideas but not interested in operating countrywide to take part in the sector. This also facilitates strategic intervention towards infrastructure or service development especially in under served or rural areas.

- b) Consumer awareness and empowerment should be increased to enable consumers exercise their right of choice and their right to complain when unsatisfied with services offered to them.

With many Ugandans still ignorant of their rights as consumers, there is greater need for consumer protection. However, this has in most cases proved to be insufficient calling instead for consumer empowerment, which is best achieved by consumer sensitisation and information dissemination. It is critical that consumers are equipped with sufficient information when making a choice.

- c) At the political level, a decision should be taken about legislated coordination among the agencies responsible for the different sectors that make up information and communication technology, with the eventual target of merger under single political direction.

Today in Uganda, there are various bodies regulating or overseeing particular aspects of ICTs; UCC for telecommunications including spectrum management, Broadcasting Council for broadcasting, and NITA-U for information technology. Convergence however has led to a blurring in the boundaries of sectors under ICT. As a result, infrastructure falling in various ICT sectors can be utilised to provide services in other ICT sectors such as Internet over cable TV systems, TV using computers, Internet telephony using PC.

A number of countries such as India, Kenya, Malaysia, Mauritius, Singapore, and South Africa have taken the approach of having a single coordinating agency instead of multiple ICT sub-sector agencies. This also eases the process of licensing for applicants by creating a one-stop shop for the various services or infrastructure licences required.

- d) Licensing that encourages optimum use of available resources (such as infrastructure including that from other sectors or industries such as railway and power) should be developed.

Various government entities and companies (some partly privatised) in other sectors such as Uganda Railways Corporation and Uganda Electricity Distribution Company Limited have set up communication networks along their infrastructure or have distribution infrastructure network which can be utilised or easily upgraded to provide transmission capacity for communication service providers. In countries like India, policies explicitly provide for such cross sector use of infrastructure.

- e) All ISPs should be allowed to set up their own international gateways and to utilise their networks to full potential by providing such services as virtual private networks and Voice over Internet.

The current scenario in Uganda in which some ISPs were granted international data gateways and others restricted creates a unlevelled playing field. With increased competition in international carriers and satellite companies, prices for international access are continuously dropping. Allowing all ISPs to have international gateways reduces the number of intermediates that cause increases in the cost price as well as having greater price variety in the market. India has taken this approach and so have other countries like Malaysia and Mauritius.

As a result of the nature of the Internet Protocol and convergence of ICT industries, ISPs' networks can be optimised to provide a very wide range of multimedia services including the establishment of worldwide private networks and provision of voice telephony services. The licensing regime should allow for the full utilisation of these resources for the improvement in variety of services available and choice of providers in the country. VoIP is a technology that has become recognised and widely accepted world over including Germany, India, Kenya, Malaysia, Mauritius, Singapore and South Africa effective means of providing voice telephony. The population of Uganda should not be made to miss out of the benefits of this cheap voice telephony technology.

- f) Special obligations and sector specific competition regulations (laws) applicable to all telecommunications networks and services should be imposed and enforced. A close coherent link between the sector specific competition regulations and the general competition law should be established.

Although the Cap 106, Laws of Uganda and licences issued in accordance with the Uganda Communications Act of 1997 contain competition provisions,

Uganda heavily lacks a national competition law. The regulations developed by UCC have been finally approved. However, a good law, regulations or decision is of no use if not enforced. Fair competition is extremely key to growth of the sector in a fully or partially liberalised sector especially one like Uganda with historical advantages to some companies. This is further compounded by the lack of recourse for operators beyond the communications regulator. It is always a challenge to balance consumer protection and fair competition among providers.

- g) Rural communications development programme should be strengthened to deal with service/access gaps in the competition driven environment.

Even in a heavily competitive environment, the tendency among providers is to concentrate operations in areas that are viable. As a result, some portion is left without 'reasonable access' to communication services. It is therefore critical that the rural communication development program comes in to ensure services are available nationwide especially in the less viable and unviable rural areas of the country

- h) Setting up of international access for private use and establishment of termination facilities be permitted.

As the sector develops, various business operations and type of demands arise which in some cases may demand sufficiently high bandwidth or may not necessitate intermediaries to provide international access. Private users should also be accorded the right if they so wish to decide to establish their own international systems.

CHAPTER 5: REGIONAL AND INTERNATIONAL POLICY AND ICT INITIATIVES

5.1 Introduction

This chapter highlights key regional policies and initiatives that the Uganda Sector Policy must take into account. The two most critical treaty level organisations are COMESA and the East African Community. For purposes of this report, all regional level policies and initiatives have been taken as key issues in the formulation of the new policy.

5.2 The COMESA ICT Policy

The COMESA ICT policy was developed to service as a policy model for the harmonious development and application of ICT within member states with a view of turning the COMESA into information society. The policy framework that should be adopted by all member states should address the following objectives:

- Affordable, ubiquitous and high quality services
- Building a competitive regional ICT sector
- Creating an enabling environment for sustainable ICT diffusion and development.

In order to achieve the above objectives, member states are encouraged to adopt new approaches that can enable interconnectivity between all operators and service providers within the region, promote universal service/ access, encourage competition in the sector through the removal of barriers to entry, and establish an appropriate licensing regime that is transparent and conducive to investment in the sector.

The regional framework however does not provide guidelines and approaches for broadcasting, Internet and postal services as well as the sectoral linkage of ICT usage and applications such as e-commerce, e-education, e-government, e-agriculture, e-health etc, are not addressed. A separate policy to address this concern is being developed for the region.

5.3 COMESA ICT Initiatives

A number of ICT initiatives have been undertaken within the COMESA region. For the effective implementation of the ICT policy framework, COMESA has ICT model guidelines and regulations on:

- Interconnection
- Licensing
- Universal Service/Access
- Fair Competition

COMESA has initiated a COMTEL Project that is the First Pan-African Carriers' Carrier Regional Terrestrial Fibre Optic Cable Backbone Network project conceived by National Telecom Operators (NTOs) and facilitated by COMESA to provide interconnectivity Services for 21 NTOs towards seamless delivery of Regional and International Digital Voice and High Capacity Data Traffic to and from COMESA. In 2000, a protocol and agreement for the establishment of COMTEL Investment Company (CIC), a Private Limited Company, as the vehicle through which the NTOs shall collectively invest in COMTEL Communications Company (CCC) and the commitment by NTOs and Governments, was signed. Supported by the NEPAD Priority Flagship Project in STAP, Anderberg-Ericsson Consortium was appointed by COMESA and NTOs as the Strategic Equity Partner to will fund, construct, manage and operate the COMTEL Network for a period of 10 years. The Network Establishment is to take 301 working days commencing from the first quarter of 2005. COMTEL will combine Voice-Over-IP via MPLS VPN Technology and Carrier' Class Public/Private exchanges to deliver a robust multi-billion Minute Voice network with the largest level of Public Service network interconnects including backhaul traffic across Africa.

5.4 The East African Community (EAC) Initiatives

The EAC Secretariat, instituted a study on regional communications strategy which recommended:

- The harmonization of the EA Communications regulation strategy
- Lowering of tariffs in the sub region; common tariff regime
- Review of the current interconnection regimes
- Competition to be permitted immediately
- Implement universal service fund

On the ICT policy, the study recommends;

- Countries to revisit their ICT Policies and subject them to a task force review in order to achieve a harmonized ICT policy for the region and include gender and youth issues as well as a common definition of ICTs is desirable.
- Creation of a ministry or a body to foresee the implementation of ICT policy
- Promote early ICT in training

On infrastructure development, the study recommends;

- Resurrect the implementation of a high capacity link of Erstwhile EAC Digital Transmission Project
- Support the Submarine cable: EA Submarine and COMTEL project
- Licensing of regional links.

ICT development initiatives that are supported under the EAC include the Eastern Africa Submarine System (EASSy) cable project, which will establish a fibre optic undersea cable system connecting the region with the rest of the world. The project is driven by 15 telecommunications entities from 12 countries namely; South Africa, Mozambique, Madagascar, Tanzania, Kenya, Uganda, Rwanda, Malawi, Botswana, Djibouti, Ethiopia and Somalia. Other countries in the region as well as key global carriers are expected to eventually participate in the project.

EASSy will link to the global submarine cable network through other regional undersea systems including SAT3, SAFE, SEA-ME-WE 3 and SEA-ME-WE 4 and encircle Africa by high capacity optic fibre telecommunications networks. NEPAD has identified EASSy as a priority project for the enhancement of ICT infrastructure in the region and World Bank/IFC, French Development Agency and Development Bank of South Africa have extended a grant for the detailed feasibility study.

5.5 RASCOM

Regional African Satellite Communications Organisation (RASCOM) another ICT infrastructure development initiative established in 1993 dedicated to providing Africa with its own satellite for relaying telephone, data and television signals. The project when complete will provide space segment required for national; and international telecommunications services in all African countries and will enable rural connectivity at low tariff rates.

CHAPTER 6: DEFINING THE NEW POLICY:

6.1 Introduction

A holistic approach has been used in defining the new policy, encompassing the international targets, national vision and aspirations, all sectors of government and related sector objectives, and full recognition and analysis of the regional and international developments in the telecommunications sector.

The Millennium Development Goals (MDGs) provide an important starting point, especially among Least Developed Countries, for defining national development goals. This is reinforced by recommendations from international fora, especially the current process of the World Summit on the Information Society (WSIS). At the national front the proposed telecommunications policy addresses the country's broad national goals as stipulated in Uganda Vision 2025, the Poverty Eradication Action Plan (PEAP), the Plan for Modernization of Agriculture (PMA), Medium-Term Competitive Strategy for the Private Sector (MTCS) and the strategic Export Intervention Program (SEIP) among other.

Further recognising that the telecommunications sector is a sub sector under the broad framework of the National ICT policy framework (2002), the proposed policy has been defined to implement the specific telecommunications concerns under the framework. Telecommunication and infrastructure needs under the proposed National IT Bill, The Draft Broadcasting policy, The Press and Journalist Statute, The Electronic Media Statute (1996) have been highlighted and addressed.²⁰

For purposes of identifying and addressing the telecommunications and infrastructure needs of other sectors, the policies and ICT initiatives undertaken in the health, education, governance, agriculture and commerce have been identified, as have been relevant regional and international initiatives in ICT.

6.2 International Goals, Macro and Sector Policies, and entry points for telecommunication

²⁰ Please note that drafts or proposed policies have been used for the IT and Broadcasting policies. Although we recognize that these documents may change, its imperative at this stage to incorporate them in the new policy given their closeness and linkage to the telecom sector. This report shall be updated when adopted versions of these policies are received.

6.2.1 *The Millennium Development Goals (MDGs)*

MDGs were born from a historic Millennium Declaration adopted by 189 countries at the UN Millennium Summit in September 2000 to attain 8 specific goals by 2015 namely;

- 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;
- to combat 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.

The MDG goals and targets have been developed into an MDG goals/ICT indicator matrix.

Uganda was part of the 189 countries and as such tailored its development target to reflect the MDGs. The new telecommunications policy is therefore born from the above 8 MDG goals as it addresses ICT application as a growth accelerator to the country with specific emphasis to the sectors that address the MDGs such as health, education and agriculture.

6.2.2 *Uganda Vision 20-25*

The Uganda Vision 2025 provides the framework for planning the economic and social development needs for 25 years starting in 2000. It sets the long-term strategies and policy options derived from the National Long Term Perspective Studies (NLTPS) implemented through the various sectors.

The long term aspirations envision that by the year 2025 Uganda should; have attained a conducive macro economic environment; be a science and technology driven country; be a society that recognizes information as a national resource; have coordinated network of information sources, systems and services; and a modern, adequate and sustainable infrastructure among others. These issues take centre stage in the new policy of the telecommunications sector.

It should be noted that Vision 20-25 does not have any specific focus on ICT, and the needs to support Vision targets are inferred rather than taken from the Vision 20-25

document. It is expected that Vision 2035 will take more specific cognisance of ICT both as an enabling sector and also as a specific economic sector.

6.2.3 The Revised Poverty Eradication Action Plan (PEAP)

The PEAP is Uganda's comprehensive development framework. The PEAP has guided the formulation of government policy since its inception in 1997. Under this plan, Uganda is being transformed into a modern economy in which agents in all sectors can participate in economic growth. This implies a number of conditions:

- The economy requires structural transformation, including the modernization of agriculture and the development of industries, which build on demand and supply linkages from agriculture.
- The poor must be able to participate in this growth, both by expanding smallholder agriculture and by expanding employment in industry and services, as well as in rural non-farm enterprises.

The PEAP analysis underlies the definition of four major goals for the Action Plan (4 pillars of PEAP) namely;

- Fast and sustainable economic growth and structural transformation
- Good governance and security
- Increased ability of the poor to raise their incomes
- Increased quality of the life of the poor.

The telecommunication needs such as access to infrastructure, and affordability are a requirement to the effective attainment of the PEAP's 4 pillars.

6.2.4 The National ICT Policy (2003)

This aims at facilitating a comprehensive and coordinated development of Uganda's ICT sector. The scope of the ICT Policy covers information as a resource for development, mechanisms for accessing information, and ICT as an industry, including e-business, software development and manufacturing. The policy looks at various categories of information from different sectors and is essentially aimed at empowering people to improve their living conditions.

Some of the fundamental policy objectives under the ICT policy framework that relate to the telecommunications sector include:

- (a) To sensitise and create awareness among the general public and all stakeholders about the role of ICT in Uganda's development process.

- (b) To promote and enable the building and establishment of an appropriate infrastructure that supports ICT development and at the same time, achieve Universal Access in Uganda.
- (c) To promote fair competition and private investment in the ICT sector with particular emphasis on development and encouragement of local participation including specific incentives for investing in ICT.
- (d) To facilitate the broadest possible access to public domain information.
- (e) To provide for establishment of an enabling and desirable legal and regulatory framework that, among other things, takes into account the convergence of technologies.
- (f) To encourage and support Research and Development in ICT.

6.2.5 The Recommendations of the World Summit on the Information Society (1)

The first phase of World Summit on Information Society (WSIS) held in Geneva, Switzerland in December 2003 adopted a declaration of Principles and Plan of Action, with a common desire and commitment to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights. Other principles and plans of actions were reached on a number of issues such as Internet governance, intellectual property rights, the media, security, traditional knowledge, labour standards and political issues.

6.2.6 Policies Related to the Telecommunications Sector

- I. **Draft Broadcasting Policy (2004)** focuses on setting the broadcasting sector to provide services that address the needs and opportunities of the poor in a sustainable manner. The policy is to promote the delivery of high quality and efficient broadcast services by enhancing the participation and coordination of the public as well as the private service providers.

The key issues addressed under the broadcasting policy that relate to the telecommunications sector include:

- Community Broadcasting to give greater access to needy areas as those with little resources, skills, expertise and funding. The challenge of the National strategy is

to roll out the community sector to cover and provide greater access to the needy areas in order to ensure equal opportunity to the public at large.

- Signal Distribution, to achieve universal access
- Digital Convergence and Multi-Media by introducing multi-channel delivery systems to serve social goals, cost efficiently and effectively.
- Digital Broadcasting

II. **Draft National IT Bill (2004)**, drafted by National Information Technology Authority- Uganda (NITA- U) proposes the establishment of an authority to coordinate, monitor and be a supervisory body to promote national IT development in support of the principles of modernisation of the country within the context of poverty eradication. It also provides for the coordination of IT related services for government wide use to matters incidental to the forgoing. The proposed authority in carrying out its objectives shall be responsible for:

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

III. **Draft Postal Policy (2003)** reforming and restructuring the postal sub-sector and guide and provide a point of reference for the harmonious development of the postal sub-sector.

6.2.7 The Big Push Strategy

Government identified Information and Communication Technology (ICT) as a crucial sector in Uganda's economic development when formulating the Big Push Strategy along with its associated incentives in 2000. This led to Government to declare ICT in 2001 as one of the eight sectors that were eligible for State intervention support to generate export revenues; The Strategic Export Program (SEP). Subsequently in 2002, VAT on computers was removed and in 2003, Cabinet approved the ICT Policy, which were some of the Big Bush Strategy recommendations. Other ICT activities under the SEP have included;

- ICT outbound Missions to South Africa and the Silicon Valley California, organized for purposes of securing joint ventures, partnership, market support and industry matchmaking for Ugandan companies;
- UIA has set in motion arrangements to set up an ICT Incubation Centre to support the development of this industry;

- The UIA is coordinating the piloting of Assisted Learning Online (ALO) Project with support from EU and UNDP. Under this project Ugandan university students will be able to give tutorials to foreign students in Europe and North America in various subjects via the Internet and Satellite;

6.2.8 Policies and ICT Initiatives in other Sectors

I. The Education Sector Policy and ICT initiatives

The education sector in Uganda has over the past years witnessed a number of changes since the announcement of the Government white paper on the Education Policy Review Commission Report of 1989, published in 1992. As a result, an Education Strategic Investment Plan (ESIP) 1998 - 2003 was developed to ensure the effective implementation of the policy and co-ordination between government, non-government organizations and development partners.

Under the ESIP, Government is committed to key human resource development and social equalization goals. Priorities of the ESIP include ensuring universal access to primary education, maintaining and improving quality of primary education, ensuring equity of access to all levels of education, forging a partnership between the public and private sectors, strengthening the role of central government and building capacity at district level. The ESIP plan period, FY1997-98 to FY2002-03, covers the first cycle of UPE. Currently a revision of the ESIP is underway.

It is worth noting that the sector has transformed since the introduction of Universal Primary Education in 1997. There has been steady increase in the number of enrolments and schools at all levels of education. At primary level, enrolment and number of teachers increased by 39% and 37% respectively between 1997 and 2002. The achievements from UPE have translated into an increase in secondary school enrolment with a number of private secondary schools mushrooming to meet the demand. Student enrolment at secondary level had increased by 47% in 2002. Intake at higher institutes learning has also doubled over the years with the mushrooming of private universities and private scholarship schemes at Makerere University.

In terms of ICT related activities, efforts have been made to introduce ICT in education. These include the introduction of computer learning at O-level and at all teachers training colleges. An ICT policy in education- (e-education) has been drafted proposing a holistic and coordinated approach to ICT in education for Uganda. Other efforts to address the ICT concerns in the sector enabled through the private and NGOs include the Schoolnet project that uses VSAT technology to link up over 50 secondary schools in Uganda, Connect-ED providing connectivity to 8 core primary teachers colleges, Global Teenager Program, among others.

Some of the major constraints to ICT usage in education have been the lack of ICT infrastructure, high access costs, lack of energy or electricity especially in the rural areas and a lack of a guiding policy in terms of ICT in the sector. These concerns have been addressed under the policy goals and broad objectives of the new telecommunications policy.

II. Health Sector Policy and Initiatives

The Health Sector in Uganda is guided by the National Health Policy, (1999 – 2008), with its implementation stipulated in the Health Sector Strategic Plan (HSSP I and II). The Health Sector Strategic Plan was developed through a Sector Wide Approach and is designed based on Results Oriented Management and Output-Oriented Budgeting with active participation of key government line Ministries, Districts, NGOs, Civil Society and the Development Partners.

Health indicators in Uganda have generally improved since the launch of the HSSP. Life expectancy is at 43 years, infant mortality rate at 88 per 1000, maternal mortality rate at 504, total fertility at 6.8, population per nurse at 3,065 and population per hospital bed at 870. Health service physical accessibility has also improved to over 50% and per capita health expenditure is at Shs. 23,000 (see table of total health units and ownership by April 2003 below).

In order to communicate national health policies and strategies, share information and network, provide updated on projects and activities and teleconferencing and long distance learning, and to monitor the performance of the HSSP, the Ministry set up a health resource centre and infrastructure division charged with ensuring the upgrade of information technologies in the health sector. A Health Management Information System (HMIS) was launched linking all decentralized health centres; hospitals etc to the ministry as well as a tripartite telemedicine project which links Mulago, Nsambya and Mengo hospital. Other ICT health initiatives largely supported by the private sector and NGOs include the HealthNet project, the ICT Continued Medical Education (CME) and AfroNet. The Ministry has embarked on a process to formulate an ICT policy framework for the sector. This process is still underway.

The lack of Internet connectivity, small bandwidth, affordability, awareness among others are the major reported challenges faced by these projects. The new policy takes cognizant of these concerns.

Table 8: Health Units by Ownership April 2003

Type	Ownership		Total
	Government	NGO	

Hospitals	55	49	104
Health Centres Level IV	143	16	159
Health Centres Level III	614	173	787
Health Centres Level II	781	1244	2025
All Units	1593	1482	3075

Ministry of Health, Statistical abstract April 2003

III. Agricultural Sector Policy and Initiatives

Agriculture is a key sector in Uganda's economy as it presents a great opportunity for poverty eradication because it employs over 80% of the labour force and because agricultural growth can be accelerated substantially. Over 85 percent of Uganda's population lives in rural areas where agriculture is the major contributor to their livelihoods. Output at present comes from about 3 million smallholder farmers, and the hand hoe is the most predominant technology for cultivation.

In 1989 under the reform policies, Government designed and adopted a Policy Agenda for the agricultural sector which focused on agricultural pricing and incentives, trade liberalization and promotion, restructuring of marketing boards, rationalizing of crop-processing capacity, financial rehabilitation of co-operative unions and strengthening agricultural research and extension services. More recently in 2002, Government developed a more holistic framework for eradicating poverty through multi-sectoral interventions with a broader strategy of poverty eradication contained in the Poverty Eradication Action Plan (PEAP) of 1997. The Plan for Modernization of Agriculture (PMA) 2000 was thus launched to govern the agricultural sector.

The broad strategies for achieving the PMA objectives include deepening decentralization for efficient service delivery; reducing public sector activities and promoting the role of the private sector; **supporting the dissemination and adoption of productivity-enhancing technologies**; addressing food security through the market, rather than emphasizing self-sufficiency; enhancing and strengthening stakeholder consultation participation in planning; and, designing and implementing gender-balanced programs.

In terms of ICT application in the sector, Research and Technology Development have been highlighted, as a key implementation strategy in the PMA. Arrangements for research are decentralized, conducted through the Agricultural Research and Development Centres (ARDC) strategically located across the country. ARDCs link up with the districts in the Agricultural Development Centres (ADCs)—the equivalent of former District Farm Institutes (DFIs)—which in turn link up with Technology Demonstration Sites (TDSs) set up at sub-county or community levels. National Agricultural Research Organization (NARO) and an advisory centre spearhead these

centers; the National Agricultural Advisory Service (NAADS) has been established to co-ordinate extension service provision to subsistence farmers. NARO is charged with the creation of the Agricultural Research Information Center (ARIS), which has developed a national Information System for Agricultural Services and Technologies database.

Lack of a co-ordinated approach to ICT usage and applications, limited broadband capacities at the ADCs, awareness, lack of content and high access costs have been some impediment to ICT usage in the sector and thus need to be addressed under the new telecommunications policy.

IV. ICT in Governance (E-government)

The Government of Uganda adopted a decentralized system in 1987 in which central government absolved it self of the powers and responsibilities of administration, planning and finance to the local levels so that people can participate in the decision making and service delivery process.

For efficient delivery of services and government programs, there is need for effective linkage of the various administrations in a two-part stair, with the first stair linking the various central systems, i.e. the Executives, Judiciary and the Legislature and the second stair linking the Central Government with the various decentralized units at districts and local council levels. The use of modern information and communication technologies to enhance the speed of delivery, effectiveness and reach of government information and services is a major prerequisite.

A number of separate ministerial e-government projects have been undertaken but these are largely stand alone **computerized** systems/programs and therefore have not been effective in terms of enabling efficient and coordinated approach to information flow and governance. These include;

- **Ministry of Works, Housing and Communications:** The Ministry has carried out an e-readiness survey of government and is developing an e-government policy. They have also spear headed the development of an ICT policy implementation strategy, which is responsive to government directives on the ICT Policy.
- **Ministry of Foreign Affairs:** The Ministry has developed a ministry ICT Policy and implementation plan.
- **Justice Ministry:** The Judiciary Information Technology system that set stage for the establishment of a Court Case Administrative System (CCAS) through the

Commercial Justice Reform Project and the establishment of Management Information System (MIS) under the DANIDA project.

- **Ministry of Finance:** The Integrated Financial Management System (IFMS) under the EFMPII project is aimed at covering all government business processes including Budgeting, Accounting and Reporting, Purchasing, Payments/Payables, Revenue management, Commitment Accounting, Cash Management, Debt Management, Fixed Assets and Fleet Management, and Inventory/Stock Control. The IFMS will streamline all fiscal and financial management processes throughout Government and provide GOU with a modern budgeting and accounting system on which to undertake its national and public sector accounting and financial management. The IFMS will interface with other systems such as the Integrated Personnel and Payroll system (IPPS), URA Revenue systems and Bank of Uganda systems.
- **Ministry of Local Government:** LoGICS is a computerized system for monitoring the performance of Local Governments (LGs). Designed as a shared management tool for Local Governments and the Ministry of Local Government, LoGICS makes information available to other Ministries and stakeholders through the web-enabled One Stop Resource Centre. Although LoGICS has been sufficiently developed and debugged for it to be implemented in some districts it has not yet been operated as a normal part of LG operations and the Ministry of Local Government will require technical assistance for ongoing evaluation of the system's effectiveness, and to undertake the necessary debugging and re-programming. The Ministry of Local Government also needs to build its internal capacity to support this process effectively

The Ministry of Local government has also initiated the District Administrative Network Project (District Net) with support from International Institute for Communications Development (IICD) and DFID (UK). This project runs from 2002-2006 and covers Lira, Kayunga, Mbarara & Mbale Districts with an aim of improving local governments in these districts by establishing functional data/information management and public communication systems.

Short-term ICT projects:

- **Office of the President:** Intranet
- **Office of the Prime Minister:** ICT capacity building for central Government Ministries Department and Agencies.
- **Parliament of Uganda:** Parliamentary MIS

- **Ministry of Finance- URA:** Tax Identification no. Project, ASYCUDA (Automated Systems for Customs) Project, SCALA Financials Management, Integrated Tax Administration System etc.
- **Ministry of Public Service:** Integrated Personnel and Payroll System (IPPS)

Some of the major drawbacks to e- government include:

- Lack of a co-coordinated approach to address ICT application in government. While the Ministry of WHC established an e-government strategy under the National ICT framework, this is yet to be adopted by Government.
- Limited ICT infrastructure and energy especially in rural areas, which house most of the countries Local council units,
- Affordability and awareness coupled with inadequate human resource capacity for ICT application.

V. E-Commerce

Uganda is a cash based economy and electronic transactions form a negligible percentage of all business transactions in Uganda. Although a number of business have websites, most of these websites offer static content and only a few offer feedback forms and complaint registers online. Most private businesses use email as a formal means of communications with contract and purchase orders are accepted over email by some private businesses.

Lack of a widespread payment system still remains a challenge to e-commerce although banks are slowly moving to address this. Since use of debit cards is still very limited within Uganda, e- transactions commerce is severely restricted. Payment by wire transfer is possible for online transactions but is cumbersome.

Mobile-commerce (m-commerce) seems to have better prospects due to the widespread adoption of mobile phones. Already a number of innovative m-commerce applications have emerged. An example is Nile Bank and True African which together have developed a product where customers can check their account balances using SMS and also load airtime onto their phones.

M-Commerce is also finding its way into rural areas through schemes like FoodNet being used to disseminate market price information to rural farmers using SMS and also radio broadcasts.

6.3 Defining Universal Access

When the telecommunications sector policy is defined using the holistic approach, Universal Access is necessarily defined by the question: “*What infrastructure and services must be in place (where and when) in order to enable the human development plans and objectives of the different sectors?*” This extends from the International Vision (MDGs), the National Vision (Vision 20-25) to the National ICT Policy and the specific sector policies and plans.

6.3.1 The Challenge

The challenge: It is recognised that despite the progress achieved in the sector, the majority of Ugandans, especially the rural communities, continue to lack access to telecommunications services. This keeps them out of the national dialogue and opportunities – not only in economic activity but in educational systems, health and welfare systems, national discourse, and all other aspects of our society. They constitute groups that will be the last to be reached by commercial voice/ data (computer usage e.g. e-mail/internet) systems that evolve in private markets: this makes the case for societal interventions in the market driven by universal access targets.

In defining Universal Access, it is important to remember that access does not necessarily mean ability to use, especially in relation to computers – the basic device for Internet access. There is a clear distinction between telephony and computer usage in terms of storage of content, leading to differing meanings of access. In telephony, content is ‘stored’ in the user, hence, issues regarding translation of content and its update are in the direct control of the user. Further, the user training for the technology is confined to the usage of the physical device (the phone). In the context of computer usage, ‘content’ is mainly stored by the technology and is indirectly under the control of the user (except in some of the uses e.g. e-mail), so issues regarding translation and updates have to be addressed in order to make usage of the technologies relevant to the community it is meant to serve. There is also a requirement for knowing the language of interface, training in the manipulation of several keys on the keyboard, visualising and interpreting characters displayed on the screen, etc.

It is in light of the above that the definition used takes into account sectors of society where parameters such as language (e.g. English, being the most widely used in computer systems) and general levels of exposure to education are assumed as given. If this assumption is coupled with other national programmes such as Universal Primary Education (UPE), it ensures that a large cross-section of society shall have coverage in terms of universal access. Finally therefore before we define Universal Access it becomes critical to take cognisance between what becomes desirable in voice/telephony terms and what is achievable in terms of data access.

6.3.2 *Definition of Universal Access*

The accessibility by the year 2010 of a minimum of one voice and data network point subject to the following:

- ***Institutional Access Points (Data capacity/speed minimum 256kb/s):*** *Within all primary and post primary Educational Institutions and Government health units. Within a UCC defined minimum number of Population Centres and/or other public institutions as may be subsequently determined by UCC.*
- ***Public Access Points (Tiered data capacity/speed determined by UCC):*** *Within each parish of an administrative district of Uganda (2004).*
- ***Pricing:*** *Using approaches that rely on competitive pressure, regulatory and fiscal incentives, and a high level of productivity among service providers to ensure affordability in the marginalised sectors of society*
- ***Technology:*** *There will be technology neutrality in both policy and regulation.*

6.4 **Recommended Broad Policy Goals**

The following broad policy goals emerge from the discussion of the macro policies and the various policy initiatives above. These will later lead to the definition of specific policy and policy objectives within the context of national vision and the political agenda of government.

6.4.1 *To create a conducive environment for the establishment of a fully liberalised, technology neutral, and competitive telecommunications sector with no entry barriers.*

6.4.2 *To ensure the ubiquitous presence of telecommunication infrastructure and services that will enable sustainable human development through ease and affordability of access to relevant, accurate, and timely information (actual content being the responsibility of the various public sectors as well as civil society and private sector initiatives).*

6.4.3 *To facilitate the delivery of the high level information and service needs to all sectors of society, especially the marginalized sections of society (rural or poor communities, women, people with disabilities), through close integration with the following:*

- *IT sector*
- *Broadcasting sector*
- *Media sector*
- *Postal sector*

6.4.4 *To promote the growth of the manufacturing and service sectors related to or closely supported by the telecommunication industry in Uganda (research and development, fabrication and manufacturing, training, consultancy, outsourcing, etc).*

6.4.5 *To ensure that all aspects of processes and operations in the sector take full account of the following cross-cutting issues:*

- *Gender concerns*
- *Physically disadvantaged*
- *Sustainable exploitation of the environment*

CHAPTER 7: PROPOSED POLICY AND POLICY OBJECTIVES

7.1 Introduction

This chapter sets out, within the context of the broad policy goals (see Section 6.4), the proposed general and specific objectives of the new Telecommunications Sector Policy.

7.2 General Statement

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

- Government recognises 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 will work towards the convergence of all ICT sectors under single political leadership to ensure maximum synergy and harmonised policy, laws, and regulation.
- Access to the international Internet backbone via optical fibre and the establishment of a national data backbone are key national strategic priorities to be achieved by 2010.

7.2.1 Mission

To establish by the year 2010 a fully liberalised telecommunications sector as an engine of growth that is driven by the human development needs of Uganda.

7.3 General Objectives

7.3.1 To promote and enable the building and establishment of an appropriate infrastructure that supports ICT for development and achieves Universal Access in Uganda.

- 7.3.2 *To promote fair competition and private investment in the telecommunications sector with particular emphasis on development and encouragement of local participation, including specific incentives for investing in telecommunications.*
- 7.3.3 *To increase the levels of ICT functional literacy in all sectors and build human resource capacity to support the sector.*
- 7.3.4 *To identify and establish innovative financing mechanisms that address specific needs of telecommunications development.*
- 7.3.5 *To promote the use of telecommunications for the stimulation of production, storage, and dissemination of in-country information and knowledge in both the public and private sectors.*
- 7.3.6 *To facilitate the broadest possible access to public domain information.*
- 7.3.7 *To ensure gender mainstreaming in telecommunications development.*
- 7.3.8 *To provide for establishment of an enabling legal and regulatory framework that, among other things, takes into account the convergence of technologies.*
- 7.3.9 *To enhance regional and international level collaboration and co-ordination in telecommunications development.*
- 7.3.10 *To encourage innovation and facilitate the development of new services and technologies such as VoIP, provided under clear guidelines issued by UCC.*

7.4 Specific Objectives

The specific objectives are defined within the context of providing an infrastructure that provides by the year **2010, accessibility and availability throughout the country** to a minimum of a voice and data network point as detailed:

Part 1: Targets to support the universal access objectives aimed at enabling the human development plans of various government service delivery sectors. These will be supported through the Rural Communications Development Fund as well as PPPs

- 7.4.1 *Institutional Data Access Points of speeds not less than 256kbps: For all universal primary education schools and post primary institutions; all Educational Institutions; Government health units at LC111; Population*

Centres exceeding 1200 people; Agricultural extension units and other public institutions as may be subsequently determined by UCC in consultation with the service delivery arms of government.

7.4.2 Public Data Access Points of speed not less than 256kbps within each sub county (LC111) of the Administrative districts of Uganda (2004)

7.4.3 Public Voice Access Points within each Local Council second Level (LC11)/parish of the administrative districts of Uganda (2004).

7.4.4 Interconnection of all higher local governments capitals by gigabit link as part of the National Data Backbone

Part 2: Targets that address sectors of the population that can afford services. These will be achieved largely through market liberalisation, fair competition, and regulation that assures fair pricing. PPPs will have a limited role during the policy period to 2010.

7.4.5 A universal service target of 20% of the projected population, up from the current 4.2%.

7.4.6 Internet connection at greater than 64kbps to at least 10% of households in the country up from the current figure that is less than 1%.

Part 3: Strategy objectives, in terms of establishing the market through regulation.

7.4.7 Addressing affordability

7.4.8 Investment targets including PPP targets (e.g. Identify at least 5 PPP for backbone infrastructure by 2010)

It is noted that the achievement of the various targets, especially within the universal access definition, will depend heavily on the speed of rural electrification. Strong coordination will be required with the Rural Electrification Authority and the Electricity Regulatory Authority to ensure that the power needs of the units targeted under universal access have got access either to mains power, or to alternative sources of energy.

The following provisional targets for the period 2005 - 2007 are proposed for the worst-case scenario:

1. Education

Provision of 256 kbps infrastructure to

- At least 5 UPE schools at each sub-county
- At least 1 secondary schools at each sub-county level
- All universities and tertiary institutions

2. Health Sector

Provision of 256kbps infrastructure to

- At least 1 Hospital per district (where it exists)
 - 2 Health centre Level IV at county level (where they exist)
- Public Voice Access Points at all HC level III and II

3. Agriculture

Provision of 256kbps infrastructure to

- All district research and development centres
- All agricultural research centres
- Agricultural extension offices

4. E- governance

Provision of 256kbps infrastructure to

- All higher local governments headquarters.
- All sub county headquarters

Public Voice Access Points within each Local Council second Level (LC11)/parish of the Administrative districts of Uganda (2004).

7.5 Policy Strategies**7.5.1 To create a conducive environment for the establishment of a fully liberalised, technology neutral, and competitive telecommunications sector with no entry barriers.**

- i. Remove all barriers to entry starting with the end of the limited competition on 25th July 2005 and all the provisions therewith such as the exclusivity right over the provision of protected telephony services.
- ii. Ensure unlimited competition for the provision of telecommunications services; restriction only being subject to scarcity of resources such as spectrum, numbering and rights of way.
- iii. Adopt a converged regulatory and license regime and promote as well as issue licenses that ensure optimum use of available resources such as shared infrastructure even from other sectors like energy and transport.

- iv. Promote and encourage the licensing of regional links through the harmonisation and cooperation in respect to regulatory policies at EA and COMESA level.
- v. Advocate for change in legal framework in order to have provisions specific to competition in the telecommunications sector.
- vi. Develop a close coherent link between the telecommunications sector specific competition provisions and the general competition law of the country.

7.5.2 *The ubiquitous presence of telecommunication infrastructure and services that will enable sustainable human development through ease and affordability of access to relevant, accurate, and timely information (actual content being the responsibility of the various public sectors as well as civil society and private sector initiatives).*

- i. Fully liberalize the sector in order to attract additional investment in the sector.
- ii. Encourage, issue and/or offer regulatory incentives to licensees setting up or offering backbone infrastructure throughout the country.
- iii. Promote public private participation particularly in the provision of duct routes for fibre optic backbone systems along the highways as a means of reducing cost for the national backbone.
- iv. Encourage cost effective techniques such as mounting of fibre cable along the electricity grid and along the railway lines through integrated planning and implementation of the relevant Government infrastructure projects.
- v. Support and actively participate in the proposed regional infrastructure development initiatives such as the Eastern African Submarine Fibre Optic Cable Project (EASSy), COMTEL and RASCOM in order to ensure timely implementation
- vi. Establish telecommunications backbone infrastructure to all UPE schools, educational institutions and other specified points serving identified sectors of health, agriculture, local administration to support ICT

applications. Infrastructure resource sharing between the various institutions and the community-based organizations will be encouraged.

- vii. Develop a pricing and tariff regime that will facilitate the achievement of affordability for all telecommunications services and cater for special pricing models for education and health (E- rate pricing model).
- viii. Provide incentives such as tax relief for network infrastructure, ICT application tools and software, and reduction of excise tax as well VAT on ICT end-user tariffs in order to improve on affordability of costs for various services.

7.5.3 The availability of a competent human resource to support the telecommunication environment

- i. Create the opportunity and potential for the youth to be the drivers of ICT in Uganda through the early integration of ICT in the curricula of education system at all levels and support for the establishment of Vanguard educational institutions.
- ii. Participate as appropriate in the development and implementation of a coordinated policy and strategy for ICT in the education sector.
- iii. Encourage and promote the use of low cost ICT technologies such as WiFi and VoIP for educational institutes
- iv. Develop a low cost rate policy for educational institutions. (E-Rate model for schools).
- v. Accord due regard to intellectual assets through the establishment of the necessary policies and laws that attach value and reward to intellectual assets
- vi. Encourage and support research and development in ICT through local universities and research institutions and publicize and disseminate information with a view to encouraging greater participation.

7.5.4 The delivery of high level information and service needs to all sectors of society, especially the marginalized sections of society (rural or poor communities, women, people with disabilities), through close integration with the:

- IT policy and policy objectives

- Broadcasting policy and policy objectives
 - Media policy and policy objectives
 - Postal policy and policy objectives
- i. Ensure equitable distribution of services throughout the country through an appropriate licensing mechanism, while at the same time addressing the rural and poor areas through the RCDF programs.
 - ii. Develop and implement a mechanism for the sensitisation and creation of awareness on ICT's through out the country in close collaboration with the Consumer Association and other stakeholders in order to enhance the use of ICTs.
 - iii. Develop and operationalise a policy on gender mainstreaming in ICTs which also address the needs of people with disabilities.
 - iv. Ensure equal participation for all including the poor, women, people with disabilities and all marginalized persons in all aspect of ICT application and usage.

7.5.5 The creation of a policy and regulatory environment that supports Uganda's aspiration of being a telecommunications and IT services hub.

- i. Establish a desirable and enabling legal framework in a competitive that facilitates and encourages investment in the telecommunications sector.
- ii. Continuously monitor and review as necessary the relevant policies that support and promote a liberalised, competitive and innovative telecomm sector.

CHAPTER 8: IMPLEMENTATION MASTER PLAN

8.1 Introduction

After setting the specific objectives as outlined in Chapter 7 of the report, this Chapter considers how the stipulated policy goals and objectives shall be implemented. The first part of the chapters defines Uganda's telecommunication's market after the Exclusivity Period, the second part identifies the cost requirements vis-à-vis the targets of the policy and while the third part of the chapter outlines the specific time lines for implementation of the policy.

8.2 Establishing the Market Structure

The market structure as defined by the licensing regime, seeks to address the concerns of the evolution of technology and market applications. *It especially recognises that the distinctions in technologies that traditionally applied to particular services are blurring and the same technology can now be used to offer more than one type of service.*

However, the restrictions in the current licensing regime have resulted in a lack of flexibility that would allow for innovation.

The end of the exclusivity period offers an opportunity to review the market structure in place and make it more adaptable to competition as well as innovation.

However, we recognize that the existing legal rights of operators prior to the pronouncement of this policy/market structure shall continue to the extent that they are not inconsistent with this policy or any amendments under the Act.

8.3 Current situation

1) Licence categories

The licence categorization as provided for in the current Act consists of major licences and minor licences.

Among the major licences, which by law are issued by the Minister upon recommendation of UCC, are *the National Telecommunications Operator (NTO) licences* of UTL and MTN that allow them to provide any telecommunication service and construct any infrastructure they may deem necessary to provide these services.

Another major licence is the cellular telecommunications service licence held by Celtel, which permits them to provide mobile telephony services in and out of Uganda. Under this licence they are free and have installed the necessary infrastructure including an international gateway that is solely for use with their own traffic.

Other licences current in the market are the *private voice and data networks licences* under which networks have been established using technology of choice to provide closed user group services to third parties.

There are also eight operational Internet Service Providers (excluding the 2 NTOs), five of which have been granted and have set up international data gateway facilities. The ISPs have also set up last mile connections to customers using technologies such as wi-fi and optical fibre.

A few private entities such as embassies, UN organizations, educational and research institutions, have also set up their own communications facilities especially for international access under private network licences. Some of these have a great national reach with more capacity than is required to meet the communication needs of the entity.

8.4 Basis of the new market structure

The key principles and objectives of the new market structure are:

1. To ensure timely rollout of backbone and distribution infrastructure as per set development targets out throughout Uganda.
2. To encourage the free growth of new applications and services leveraging on the technological developments in the Information and Communication Technology (ICT) area.
3. To provide an effective and fast response to market and customers' needs through a simplified, clear and transparent licensing regime while ensuring flexibility and efficient utilization of resources,
4. To take into account “convergence”, while making sure it is not used as an excuse to restrain new entrants
5. A licensing regime that encourages regional players and global ICT applications.

8.5 Proposed market structure

Notwithstanding the attributes and proposals on full liberalisation stated in the preceding chapters, services will be provided under open competition while

infrastructure will still be subjected to limited entry. This is to encourage establishment of the required national high capacity infrastructure as well as attract the substantial investment necessary to meet the infrastructure needs of Uganda.

The Market structure shall provide for a broad 2 categories licensing regime namely:

1. The Service Provider License
2. The Infrastructure License

8.5.1 The Service Provider License

A service provider license shall be issued to any person or entity who offers a telecommunication service to a 3rd party using the infrastructure of a public infrastructure provider licence holder.

Examples of telecommunication services

The forms of telecommunications services shall include but not limited to:

- Cellular service,
- Conventional fixed voice service,
- Internet café
- Public chain payphone operators/kiosk operators
- Resale service providers (local and international leased lines and public switched telecommunications services)
- Internet access service
- Virtual private network services
- Internet exchange services
- Global mobile personal communications by satellite (GMPCS) services
- Backhaul bandwidth capacity services,
- Internet based voice service.

Two sub categories are proposed under the service providers, namely:

- a. Class licences, and
- b. Individual licences.

The classification of services under the two categorises will be pre-determined by the Commission.

i) Class License

The designation of services to fall within the class license shall be based on the need to encourage market entry in a particular activity and to encourage innovation. In the current regime, public payphone operators/kiosk operators and public cafés operators are example of class license holders.

In terms of licensing procedures, class licence holders shall be subject to general authorisation with requirement for notification as prescribed by UCC for records purposes.

ii) Individual licences

All service providers of telecommunications services not prescribed by UCC to fall within class license shall be issued individual licenses. Notwithstanding the foregoing, all services that are associated with prepaid facilities and as such require consumer protection shall be classified as individual licenses.

Further, an individual service provider licence *shall not* be granted to

- An individual or sole proprietor,
- A partnership,
- A company incorporated outside Uganda

Public operators

All service providers of publicly available telecommunications service that have national coverage shall be designated as Public Operators upon fulfilment of the associated UCC conditions. This status shall be accompanied by certain rights and is subject to regulatory obligations.

8.5.2 The Infrastructure License

This licence when issued to a person will permit the installation and operation of infrastructure associated with the transmission, switching and distribution of electronic signals within the specified scope.

Two broad categories are identified under the infrastructure-licensing category namely:

- a. Private infrastructure
- b. Public infrastructure providers.

i) Private infrastructure:

A private network shall be regarded as one established and operated based on the following:

- For the sole use of members of the owning body/entity in a private closed user group,
- Established within property boundaries, only extending into public domain to link up geographically separated branches owned, leased or rented by the entity

and only upon receipt of the necessary permission from the respective public authorities,

- Telecommunication services on the network not offered for monetary gain
- Established, operated and maintained in line with public safety requirements.

There are a wide variety of technologies available for establishing private networks dependent on the purpose and location.

Private networks shall be subject to general authorisation but where, it necessitates establishment and operation of satellite gateways, including VSATs and/or use of scarce resources such as frequency spectrum, special authorisation shall be required subject to availability of the resources. The regulations pertaining to the use of the various spectrum bands shall apply.

ii) Public infrastructure provider Licences

These shall permit for the establishment and operation of infrastructure facilities for provision of telecommunications services to a 3rd party or resale to any telecommunications service provider. There shall be 3 categories of Public infrastructure licenses providers namely;

- a) Capacity Resale infrastructure license* – this licence is issued for construction of a limited scope of infrastructure.

Capacity resale infrastructure license will be issued to persons who under the current licensing regime are permitted to install infrastructure. These will be granted licences that permit them to install only the infrastructure of the type they have already invested in. This licence will also be applicable to persons whose core business is not in telecommunications but who possess private communications facilities with surplus capacity and wish to resale this to 3rd parties.

To ensure a level playing field, this licence will also be made available to new entrants in the ISP market as they would be eligible to apply for international gateway facilities and operation of networks using ISM band.

- b) National Telecommunications Operators (NTO)*

This is the licence currently held by UTL and MTN that permits the provision of all telecommunications services as well the construction of any telecommunication infrastructure under the same licence.

In order to achieve a desired infrastructure rollout and universal access objectives it is proposed that at least one more NTO license be issued within 24 months after expiry of the exclusivity period. The license will be issued through an open competitive bidding process so as to attract viable and suitable investment to the Uganda market where a large demand for services still exists.

The National licences will have specific regulatory privileges and will be subject to regulatory obligations and provision.

c) *“Special permission to construct”*

This will be granted to a holder of a service provider licence to set up infrastructure if no infrastructure is available in an area or where the NTOs cannot provide the infrastructure within the Maximum Response Time as specified by UCC. This will carry an obligation to offer capacity commercially to other interested service providers.

8.6 Cost Projections

The estimated cost involved in achieving the various policy targets spelt out in chapter 7 is summarised in tables 8 and 9 below.

Table 9: Overall policy targets for the period 2005 –2010

Network	Number of units	Total (US \$)	Remarks
High capacity (gigabit) backbone infrastructure to all districts	4500km to 56 districts headquarters	45,000,000	Assumes a star network of optical fibre with Kampala at its centre.
Internet points of presence (PoP)	32 districts as per 22 nd October 2003 RCDF implementation report	992,000	<ul style="list-style-type: none"> Assumes use of broadband wireless access (has optimal speed of 20Mbps range of up to 20 Km). To be constructed under RCDF programme in 2005.
Sub county level Internet access	930 repeaters	9,300,000	Assuming a repeater per sub county

Spectrum costs	> 4 channels per district per year	1,417,000	Use of MMDS frequencies
<p>Education</p> <ul style="list-style-type: none"> • 14,816 UPE schools • 3,645 secondary schools • 2,713 post primary institutions • 155 tertiary institutions 	21,329 subscribers	32,000,000	Subscriber costs Includes purchase of customer premises equipment (including antennas and modems)
<p>Health</p> <ul style="list-style-type: none"> • 2393 Health Units (LCIII level) • 139 Health centre IV • 38 District Hospitals • 10 Regional referral Hospitals • 1 National referral hospital²¹ • 3 Military Hospitals 	2,584 subscribers	3,880,000	
<p>Agriculture</p> <ul style="list-style-type: none"> • 6 Agricultural agencies • 9 Research institutes • 11 research centres • 56 proposed Agricultural development centres (ADCs) • Extension offices at each sub county 	985 subscribers	1,480,000	

²¹ This refers to Butabika since the other national referral hospital, Mulago already has access through various projects

Local government <ul style="list-style-type: none"> • 18 higher local government headquarters²² • 930 sub county headquarters 	948 subscribers	1,580,000	
Public voice access points <ul style="list-style-type: none"> • 5,222 parishes • 10 regional referral hospitals (HC Level II) • 38 District hospitals (HC Level III) 	5270	5,270,000	Only public phone access unit is considered
Public data access points	930	6,510,000	

Table 10: Costing of the provisional policy targets for the period 2005 – 2007 in the education and health sectors

Network	Number of units	Total (US \$)	Remarks
Education	<ul style="list-style-type: none"> i) 5 UPE schools per sub county ii) 1 Secondary school per sub county iii) 155 tertiary institutions including universities 	8,600,000	Subscriber costs Includes purchase of customer premises equipment (including antennas and modems)
Health	<ul style="list-style-type: none"> i) 38 district hospitals ii) 139 Health centre IV²³ iii) 10 Regional referral Hospitals iv) 1 National referral hospital v) 3 Military Hospitals 	287,000	

8.7 Investment gap analysis

The following assumptions apply:

- i) Investment will need to be sunk in ratio 30:25:20:15:10 over the five years apart from spectrum fees which will be a fixed recurring cost year on year.

²² This number excludes the district headquarters, also higher governments, due to the fact that POPs at district headquarters have an associated cost of access to 10 subscribers of which one has to be the District headquarters offices

²³ There are a total of 162 Counties with only 139 Health centre IV at present

- ii) 30% of total private investment currently goes into infrastructure roll out. Whereas overall private investment has been growing, albeit at decreasing rates year on year, the investment in infrastructure has generally been reducing and is projected to further decline by 10% per year on the current levels.
- iii) Due to increased competition as a result of this policy intervention and the associated benefits across the board thereof, total industry revenues are projected to increase by 10% each year.
- iv) Annual inflation rate of 5%

The table below summarizes the gaps in investment that will need to be catered for through Public Private Partnerships (PPPs) or other forms of interventions over the five years.

	2005/06	2006/07	2007/08	2008/09	2009/2010	TOTAL
Total cost	32,021,900	26,732,250	21,442,600	16,152,950	10,863,300	107,213,000
Adjust to Inflation and Dep.	32,021,900	28,068,863	22,514,730	16,960,598	11,406,465	112,573,650
Private Investment	18,156,844	16,341,159	14,707,043	13,236,339	11,912,705	74,354,090
RCDF input AT 1 %	2,754,453	3,029,898	3,332,888	3,666,177	4,032,795	16,816,211
RCDF at 1.5%	4,131,681	4,544,849	4,999,333	5,499,267	6,049,193	25,224,323
RCDF at 2% Levy	5,508,907	6,059,798	6,665,778	7,332,356	8,065,591	33,632,431
Investment Gap at 1% Levy	11,110,603	8,697,805	4,474,799	58,082	(4,539,035)	19,802,254
Investment Gap at 1.5% Levy	9,733,376	7,182,855	2,808,353	(1,775,008)	(6,555,434)	11,394,142
Investment Gap at 2% Levy	8,356,149	5,667,905	1,141,909	(3,608,097)	(8,571,831)	2,986,034

8.8 Proposed Implementation time line

In recognition that all stakeholders in the sectors including operators, policy makers, regulators and consumers require a transitional from the current regime to the proposed regime, the following transition or implementation time plan is proposed:

Activities / Action dates	2005												2006						2007							
	Jan 31st	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Submission to the Minister of UCC's proposal	■																									
Preparation of Policy paper and submission to Legislature and Cabinet		■	■																							
Pronouncement of Policy			■																							
Review and Amendment of the Act				■	■	■																				
Review and modification of current licenses				■	■	■	■	■	■	■	■	■	■	■	■											
Review and modification of the regulatory framework				■	■	■	■	■	■	■	■	■														
Effective start date of the new policy							■																			
Commencement of regulatory requirement (market/competition)													■													
Issuance of a third national operators license							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Mid term policy review																									■	