

GLOBAL INFORMATION SOCIETY WATCH 2008

Focus on access to infrastructure



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UGANDA

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Introduction

Uganda is a landlocked East African country which relies exclusively on satellite for international connectivity. With a low per capita income of USD 280, and high taxation on telecom services, it has only about six million mobile phone subscribers and 165,788 fixed lines. The regulator, the Uganda Communications Commission (UCC), has a universal service fund known as the Rural Communications Development Fund (RCDF), which has been used to set up phone booths, internet cafés, internet points of presence, information and communications technology (ICT) training centres, and websites for districts, among others. However, many parts of the country remain unserved, even though the country's teledensity has risen to 20%, from less than 12% in 2006.

The liberalisation of the telecom sector in Uganda came after the Communications Act of 1997, and saw the licensing of two national operators (MTN Uganda and Uganda Telecom), as well as a mobile operator (Celtel Uganda). The national operators had an exclusivity period that expired in 2005, and three more operators have since been licensed. One of these, Warid Telecom, started offering services in early 2008. HITS Telecom was expected to start offering services in the second half of 2008.

The liberalisation of the sector has created a very competitive environment and pushed prices to their lowest levels ever. Operators say that if the government were to reduce the taxation on mobile phone services from the current high of 30% – comprising 18% value added tax (VAT) and 12% excise duty – they would be able to make their services affordable to a greater number of Ugandans and expand their networks to some of the areas which are currently unserved. Some observers also believe that telephone services would become more affordable if the regulator were to implement effective oversight over interconnection rates.

The low level of access to the internet is attributed to high tariffs arising from the fact that connectivity is delivered through expensive satellite bandwidth. Only about 1.5% of Ugandans have access to the internet. And while 35% of universities have internet access, only 40% of this access is through broadband connectivity. Ultimately, access to ICTs, as well as their affordability, present some of the critical challenges facing Uganda as it seeks to enable more of its citizens to enter the information age.

Access and affordability challenges

Uganda is among those countries in Eastern and Southern Africa which are not connected to international fibre – primarily because the east coast of Africa does not yet have a link

to international marine fibre-optic cable. According to figures from the Uganda Internet Service Providers Association (UISPA), satellite costs are currently USD 4,000-USD 5,000 per megabit per second (Mbps) of delivered access. Comparatively, countries that rely on fibre pay less than USD 100 per Mbps of access. Satellite technology does not only consign Ugandan users to high costs; it also constrains the kind of applications which can be used on the internet.

High internet costs

Figures from UCC show that while there has been strong growth in the number of internet service providers (ISPs) – more than 20 are currently licensed – subscriber numbers have not grown as fast. The number of fixed internet subscribers stands at less than 20,000, while the estimated users are close to two million. The slow growth is attributed to high start-up and usage fees, such as USD 99 for a dial-up 64 kilobits per second (Kbps) link for 20 hours per month; the high cost of computers; limited infrastructure, including fibre; low internet usage by government, schools, and health and agricultural institutions; low ICT literacy; a lack of local content on the internet; low income levels; and an electricity shortage in some parts of the country.¹

Only a negligible proportion of Ugandan internet users access broadband. Indeed, dial-up is by far the most prevalent means of access for residential and small and medium enterprise (SME) subscribers, primarily due to its affordability, while dedicated leased lines and high-capacity digital subscriber lines (DSL) are primarily a preserve of non-governmental and corporate organisations. Very small aperture terminal (VSAT) or satellite-based access remains the most feasible means of access in remote locations. Wireless internet connectivity has slowly emerged as a popular alternative means of access in the country. A number of WiMAX networks are currently being rolled out, in addition to general packet radio service (GPRS) and code division multiple access (CDMA) platforms.

According to the UISPA, ISPs are looking at attracting greater volumes of subscribers by bringing down prices (I-Network, 2006). Since 2006 a collection of ISPs have been buying bandwidth in bulk, which means it lands in Uganda at a lower price. They have then been able to sell it to users at significantly lower costs.

Despite the high costs of connectivity, the regulator says there has been an increase in multimedia messaging (MMS) and short messaging (SMS) in the market, with over ten

1 Uganda Communications Commission (UCC): www.ucc.co.ug

content and value-added service providers in operation as of December 2007. The roll-out of third generation (3G) mobile started in 2007, and was expected to grow its subscriber base steadily through 2008. The last part of 2007 also witnessed a spurt in bandwidth capacity. Total international bandwidth increased to 344 Mbps (257.5 Mbps downlink and 86.9 Mbps uplink). There was also an increase in the deployment of wireless hotspots (using Wi-Fi or WiMAX). There are an estimated 30 hotspots in the country, 95% of which are in the Kampala metropolitan area (UCC, 2007).

Gunning for fibre

There is hope that by the end of 2009 the country will have built a national fibre network and linked to international fibre. Uganda is a signatory to the New Partnership for Africa's Development (NEPAD) protocol on development of open access fibre in Eastern and Southern Africa. It is also an active member in the consortium that is building the Eastern Africa Submarine Cable System (EASSy), one of the marine cables expected to start commercial operations in 2009.

Uganda Telecom and MTN Uganda have been among the longstanding promoters of EASSy, and through them Uganda is an active participant in the East African Backhaul System (EABS), which seeks to create a network of fibre from Mombasa on the Kenyan coast, through the capital Nairobi, and on to the Ugandan border town of Malaba. From here it flows to Kampala, then through to Rwanda, Burundi and Dar es Salaam on the Tanzanian coast. As part of the EABS, and the cooperation between Ugandan and regional companies in building fibre, MTN and Uganda Telecom are sharing fibre on segments of the system between the Kenyan and Rwandan borders.

Ugandan ICT Minister Dr. Ham Mulira has said that Uganda would welcome any marine cable that comes into operation. The thinking among government officials is that it would be advantageous to have access to multiple cable systems, as this would increase competition and result in lower prices and better quality of services. Uganda has completed phase one of its national data transmission backbone, which has linked a major part of the economic and administrative hub of the country. The second phase is supposed to be even more elaborate, following major routes and taking the cable to most of the important towns in the country. The ICT minister says the government will not rest until Uganda is fully connected to international submarine cables, which will reduce the cost of using the internet and turn Uganda's landlocked position from a competitive disadvantage to a competitive advantage (Government of Uganda, 2008).

Universal access fund

Uganda was one of the first countries in Africa to develop a policy on universal access to communications, covering ICTs (including telephony). The RCDF is one of the tools that has enabled the government to motivate and mobilise private sector investment into rural areas by offering subsidies and grants that act as investment incentives. The fund

is the result of a 1% levy on operators' revenues. Through the provision of subsidies, the RCDF has supported the establishment of internet points of presence in twenty districts of Uganda, set up 54 district information portals, internet cafés in 55 districts, ICT training centres in 30 districts, 316 public pay phones, two internet connectivity institutions, and five telecentres.

However, RCDF managers say despite 80% of its initiatives being implemented in rural areas, Uganda's teledensity growth has mostly been happening in urban areas. Moreover, although RCDF support has facilitated the further spread of ICT facilities and services to less privileged areas and communities, women have benefited less compared to their male counterparts. The Rural Communications Development Policy (UCC, 2001) does not make specific consideration for gender issues. As such, the supported projects do not necessarily aim at addressing gender imbalances.

Basic infrastructure deficits

The lack of access to electricity and the high costs incurred by those who have access need to be addressed comprehensively if meaningful improvements in connectivity are to occur. Only about 6% of Ugandans are connected to the national electricity grid, with rural areas largely unconnected. The Ugandan telecom sector is also characterised by high operational costs: there is a shortage of supporting infrastructure, such as the road network, which is often in poor shape and covers only a small part of the country. In some areas, hilly terrain also pushes up operational costs, as do security issues. Add to that the lack of an infrastructure-sharing corporate culture and the costs really hit the roof. A common scenario is for up to three operators to erect masts in the same locality, or build parallel fibre-optic networks over hundreds of kilometres.

High taxation rates

Uganda's telephone sector is highly taxed. As mentioned, the country has a 12% excise duty on mobile phone services, in addition to the 18% VAT. In June 2006, it introduced a 5% duty on land-line phone services. The GSM Association (GSMA) says African nations such as Uganda will have to lower taxes on cellular operators and cut red tape to spur rapid penetration and help their economies expand faster. A study by the association said the ten markets with the highest taxes on mobile telephony worldwide were Turkey, Uganda, Brazil, Syria, Zambia, Tanzania, Argentina, Ecuador, Kenya and Ukraine. Fixed taxes paid at the time of subscription and tax charges paid after subscription by mobile users, in addition to traditional sales tax, variable taxes levied on mobile use like VAT, and taxes due on the importation and sale of mobile handsets, were found to be high in many African markets. In countries with high taxes – amounting to 25% to 30% of costs in Kenya, Uganda, Tanzania and Zambia – expansion of mobile phone services has been much slower than those with lower tariffs, such as Nigeria, Sudan, Egypt and South Africa (GSMA, 2006).

Uganda introduced excise duty on mobile phones in 2001. The national budget for the financial year 2008/2009 did not introduce any changes with respect to the excise duty. However, import duties have now been exempted for deep cycle batteries that are not sealed for use with solar equipment, computer printers and telecommunication equipment.

Action steps

There are a number of measures that could be adopted to promote greater and more equitable access to ICTs:

- The government should cut taxes on mobile phone services to make them more affordable.
- The government and the private sector need to redouble efforts and work more speedily to build fibre both nationally and at regional level.
- The government should step up interventions that offer infrastructure and services in rural and underserved areas, including through the RCDF.
- The government (in association with the private sector, civil society, universities and research institutions) needs to work on creating demand for ICTs by developing appropriate and affordable content and applications.
- Efforts must be undertaken to increase power supply and to reduce power tariffs.
- Universal access objectives, strategies and targets should specifically address gender equity issues as well as access for people with disabilities. ■

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GLOBAL INFORMATION SOCIETY WATCH or **GISWatch** has three interrelated goals:

- **Surveying** the state of information and communication technology (ICT) policy at the local and global levels
- **Encouraging** critical debate
- **Strengthening** networking and advocacy for a just, inclusive information society.

Each year the report focuses on a particular theme. **GISWatch 2008** *focuses on access to infrastructure* and includes several thematic reports dealing with key access issues, an analysis of where global institutions stand on the access debate, a report looking at the state of indicators and access, six regional reports and 38 country reports.

GISWatch 2008 is a joint initiative of the Association for Progressive Communications (APC), the Humanist Institute for Cooperation with Developing Countries (Hivos) and the Third World Institute (ITeM).

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