

# Telecommunications Sector and Internet Access in Africa

Vanessa Phala<sup>1</sup>

*LINK Centre<sup>2</sup>, Research ICT Africa<sup>3</sup>, and University of the Witwatersrand, South Africa*

## INTRODUCTION

The “information revolution” has not only transformed the world as we know it, but also its future potential. Information and Communication Technologies (ICT), with their major technological advances, have affected the lives and lifestyles of people across the globe, as well as the way institutions and organizations do business. However, not all outcomes of the spread of information technologies have been positive. A majority of the world’s population, especially those who live in poverty, have been largely bypassed by this revolution. The gap between them and the rest of the world has expanded precisely as a result of the facilitation capacity of these technologies for those who have access to them (Figueres, 2003). The majority of these people are situated in the African continent and other developing countries.

According to Jensen,<sup>3</sup> from the study he conducted on the current status of information and communication technologies in Africa, the use of ICT has grown relatively rapidly in most urban areas in Africa. Five years ago, only a few countries had local Internet access, and now it is available in every capital city. In the same five-year period, more mobile cell phones were deployed on the continent than the number of fixed lines laid in the entire previous century. Hundreds of new local and community radio stations have been licensed, and satellite TV is now also widely available. However, the digital divide is still at its most extreme in Africa, where the use of ICT is still at a very early stage of development compared to other regions of the world (Okpaku, 2003).

The history of the development and spread of computers in Africa can be traced back to the 1960’s when Ethiopia first introduced computers. This was followed in 1961 in Zimbabwe and Zambia and 1962 in Kenya and Nigeria. The spread of computers and related technologies raised broad a wave of fear about important social and economical issues concerning the loss of jobs. Regardless of this fear, computers became and are the vital tool for economic development of all countries. The spread of these technologies demanded effective legislations which to govern their usage and contributed to the formulation of national information and informatics policies in the 1970’ and 80’s (Adam, 2004).

In addition to this, during 1992-1996 Africans were introduced to the Internet and this further highlighted the importance of regulation. Most countries adopted policies which favored the promotion of privatization and competition. The period between 1996-2000 saw the birth of broad-based policy formulation around health, education and business. Many African countries adopted policies which allowed people to make use of the ICT to better their economic standard and increase their social status. The incorporation of Communications into Information Technology reinforced the importance of using Information and Communications Technology for development (i.e., e-education, e-health, e-commerce, e-democracy and so forth).

Currently, many African countries are racing towards achieving the Millennium Development Goals by using ICT as part of their development strategy. In addition, the spread of ICT has increased digital opportunities for some and a “digital divide” for the rest, especially in developing countries. It has also given rise to other important development challenges such as achieving real access to telecommunications, incorporating gender equity into ICT programmes, the importance and relevance of Intellectual Property Rights, the need to license VoIP (Voice over Internet Protocol) and VSAT, especially in poor nations, the need for Internet governance, and the right to communicate. Most of these issues were discussed during the first phase of the World Summit on Information Society in Geneva December 2003 and will be further discussed during the second phase in Tunis 2005.

According to the Fair Access to Internet Report (FAIR) produced by the Research ICT Africa (RIA) network<sup>4</sup> concludes that Africa is the continent with the lowest diffusion of the Internet in the world. It has an average of only 111 users per 10,000 people and only three Internet hosts per 10,000 inhabitants (RIA, 2004). This is attributed primarily to the limited penetration, unreliable connections and high costs of usage of typical of the communications infrastructure across the continent. The limited network roll-out and high prices are often attributed to the restrictive policy and regulatory environment and monopoly market structures that persist in many African communications sectors, which have contributed to low levels of competition.

The Research ICT Africa network has recently produced two research reports. The first was the FAIR analysis of Internet access that covered 13 African countries (i.e., Algeria, Cameroon, Ethiopia, Ghana, Cote D'Ivoire, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Uganda and Zambia). The second research report (Sector Performance Review) reviewed the performance of seven African countries' (Cameroon, Ethiopia, Kenya, Rwanda, South Africa, Uganda and Zambia) telecommunications sector at the national level against their stated policy objectives and strategies. The main thrust was to determine which reform strategies are contributing positively to the realization and achievement of development objectives, and which ones are failing.

## FINDINGS

### Sector Performance Reviews

Though only seven case studies are reviewed in this paper, they reveal that development of the ICT sector continues to be highly uneven within countries and across the continent. What these studies also demonstrate is the lack of availability of statistical data, even from the major government departments and international reporting archives such as the International Telecommunication Union World Development Report Indicators. Further, where indicators did exist, they were often not appropriate to a developing-country context (Gillwald, 2004).

In addition, the report revealed that the primary objective of all countries reviewed was the improvement of access to telephony services, with added commitment not only to network extension but also to modernization of the network in order to meet the needs of the modern economy.

Ironically, at least one of the regulatory regimes that has proven to be effective, has achieved its success as a result of a policy and regulatory vacuum that left the regulator neglected or ignored by central government. Uganda's regulator has emerged as a well-resourced, autonomous body, at least partially because mechanisms were not put in place to provide for its funding or accountability. The regulator set about resourcing itself through levies on the sector, which allowed it to attract and train personnel who could competently deliver on the regulator's legislated mandate (RIA, 2004).

In other cases, regulatory weakness has been a key dynamic. The weak Zambian regulatory regime has been identified as one of the factors contributing to the government's inability to privatize the incumbent PSTN. This, together with high license fees, has impacted on the emergence and sustainability of ISPs (Internet Service Providers) and the penetration of the Internet. Like other

jurisdictions that have to date protected the rights and revenue streams of current incumbents (such as Cameroon, Ethiopia, Rwanda and South Africa), Zambia does not permit the deployment of cost-effective technologies such as Voice over IP (VoIP) outside of the existing incumbent.

In Ethiopia, which has seen some institutional reform since the 1996, legislation separated operations from regulation—through the creation of the Ethiopian Telecommunications Company and Ethiopian Telecommunications Agency. This provides one of the purest examples of state-provisioning, with a strict monopoly on fixed, cellular, Internet services and international gateways. With a regulatory agency that lacks political independence and human and financial resources, the likelihood of Ethiopia's monopoly PSTN being regulated to more effectively meet national needs seems remote. Unlike Uganda, where the loss-earning incumbent provider was viewed as "a yoke around the government's neck" that had to be gotten rid of, the provider in Ethiopia is one of the few revenue streams for the government. As a result, by 2004 the government remained unconvinced that privatization would sufficiently compensate it for any loss of income. For the same reason, the Ethiopian government, like many other governments that have pursued monopolistic models, remained unconvinced of the benefits of liberalization in 2004.

A key area of difficulty in regulating incumbent PSTNs is interconnection. Generally, the problems around interconnection are caused by incumbent providers not being used to operating in a competitive environment or from them being regulated. In South Africa, despite a relatively sophisticated interconnection and facilities-leasing frameworks, the principle (drawn from international best practice) that new entrants or competitors are required by law to acquire their facilities from the incumbent provider and to enter into commercial agreements prior to regulatory intervention, have resulted in protracted negotiations, competition disputes and lengthy legal reviews. Generally, the incumbent monopoly providers have the financial resources to draw out negotiations so that new entrants are forced into agreement or forced out of business. Or incumbent monopoly providers can use their superior resources to tie up the regulator in the courts for years on end, challenging what they regard as unfavourable regulatory intervention. This has been the case in South Africa. In fact, in South Africa, it was a complaint brought by the VANS providers—including Internet Service Providers—to the Competition Commission that resulted in the commission recommending to the Competition Tribunal that the incumbent provider be fined 10 percent of total annual earnings for competition breaches.

The issue of interconnection highlights the need for appropriate regulatory models for developing countries,

3 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/telecommunications-sector-internet-access-africa/11465](http://www.igi-global.com/chapter/telecommunications-sector-internet-access-africa/11465)

## Related Content

---

### Conceptualising the Use of Digital Technologies in Spatial Planning: A Progress Report on Innovation in Britain

Barry Goodchild (2020). *International Journal of E-Planning Research* (pp. 1-23).

[www.irma-international.org/article/conceptualising-the-use-of-digital-technologies-in-spatial-planning/256873](http://www.irma-international.org/article/conceptualising-the-use-of-digital-technologies-in-spatial-planning/256873)

### A Visual Approach to Locative Urban Information

Viktor Bedö (2009). *Handbook of Research on Urban Informatics: The Practice and Promise of the Real-Time City* (pp. 219-229).

[www.irma-international.org/chapter/visual-approach-locative-urban-information/21804](http://www.irma-international.org/chapter/visual-approach-locative-urban-information/21804)

### Conceptualizing Small and Medium-Sized Smart Cities in the Mediterranean Region: An Ontological Approach

Maria Panagiotopoulou, Margarita Kokla and Anastasia Stratigea (2019). *International Journal of E-Planning Research* (pp. 17-41).

[www.irma-international.org/article/conceptualizing-small-and-medium-sized-smart-cities-in-the-mediterranean-region/239854](http://www.irma-international.org/article/conceptualizing-small-and-medium-sized-smart-cities-in-the-mediterranean-region/239854)

### The TOSCA Case: How Open-Source Spatial and Digital Decision Support Tools Help Urban Agglomerations to Leapfrog Towards Smart Sustainable Cities

Maria Moleiro, Arjama Mukherjee and Joerg Rainer Noennig (2023). *International Journal of E-Planning Research* (pp. 1-16).

[www.irma-international.org/article/the-tosca-case/319370](http://www.irma-international.org/article/the-tosca-case/319370)

### Emerging role of ICT in the development of knowledge-based master planned communities

Bhishna Bajracharya and Janelle Allison (2008). *Knowledge-Based Urban Development: Planning and Applications in the Information Era* (pp. 279-295).

[www.irma-international.org/chapter/emerging-role-ict-development-knowledge/25497](http://www.irma-international.org/chapter/emerging-role-ict-development-knowledge/25497)