GLOBAL INFORMATION SOCIETY WATCH 2008

Focus on access to infrastructure

Global Information Society Watch
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Introduction:
Access to infrastructure

Willie Currie
APC
www.apc.org

2008 was a year in which there was much focus on the issue of universal access to information and communications technologies (ICTs) and the internet. Many global institutions focused on access, resulting in initiatives such as the International Telecommunication Union (ITU) Global Symposium for Regulators on Open Access; an Organisation for Economic Co-operation and Development (OECD) publication called *Global Opportunities for Internet Access Developments*; the GSM Association's report *Universal Access: How mobile can bring communications for all*; the Global Alliance for ICT and Development (GAID) Global Forum on Access and Connectivity; and *info*Dev's publication on broadband in Africa, as well as the European Commission's call for universal broadband in Europe by 2010, and the Internet Governance Forum's (IGF) adoption of "Internet for All" as the overall theme for its third meeting in Hyderabad.

Within these institutions there is a broad recognition that while the digital divide, driven by the spread of mobile, has closed dramatically with regard to voice telephony, a new access gap is emerging with respect to broadband internet infrastructure and services. In this decade, the rapid increase in user-generated content and interactivity on the internet, sometimes known as Web 2.0,[1] has transformed the digital environment. This process was facilitated by the expansion of broadband internet access, and the eclipse of narrowband internet access through dial-up connectivity. In 2004, the number of broadband subscribers in the OECD surpassed the number of dial-up subscribers. At the end of 2003, there were 83 million broadband subscribers in the OECD. By June 2007, there were 221 million – an increase of 165% (OECD, 2008a, p. 23). In 2006, about 70% of broadband subscribers worldwide were located in OECD countries, which accounted for only 16% of the world's population. In contrast, 30% of broadband subscribers were found in developing countries, with 84% of the population. The situation in least developed countries (LDCs) is much worse – there were only 46,000 broadband subscribers in 22 out of 50 LDCs with broadband services in 2006 (ITU, 2007).

Why is access to broadband so important? The ITU says this:

> Ensuring the information society requires not only access and availability of ICT, but a high quality ICT experience. Broadband-enabled services have the potential to create economic and empowerment opportunities, and improve lives (ITU, 2007, p. 7-8).

European Union (EU) Telecoms Commissioner Viviane Reding:

> High speed internet is the passport to the Information Society and an essential condition for economic growth. That is why it is the Commission's policies to make broadband internet for all Europeans happen by 2010 (BBC, 2008).

And the OECD Council on Broadband Development:

> Broadband not only plays a critical role in the workings of the economy, it connects consumers, businesses, governments and facilitates social interaction (OECD, 2008a, p. 7).

When opinion-makers, policy think tanks and industry players in developed countries look at the issue of broadband in developing countries, they tend to say that broadband will be delivered by wireless networks. For example, the OECD says "all indications are that the majority of the next several billion users, mainly from developing countries, will connect to the internet principally via wireless networks. In some developing countries the number of wireless subscribers already outnumbers those for fixed networks by more than 20 to one" (OECD, 2008b, p. 4). While this kind of statement may be generally true, it tends to elide with the notion that these wireless networks will be those of the mobile phone operators and that the solution to the broadband divide will be simply left to the private sector in the form of the mobile operators to resolve. Global institutions representing the interests of mobile subscribers take this point up with alacrity and make claims that "mobile communication will deliver affordable voice, data and Internet services to more than five billion people by 2015" (GSMA, 2008, p. 1). Free market activist financial journals like *The Economist* champion the mobile web when they argue: "The developing world missed out on much of the excitement of the initial web revolution, the dotcom boom and Web 2.0, largely because it did not have an internet infrastructure. But developing countries may now be poised to leapfrog the industrialised world in the era of the mobile web" (Economist, 2008).

Among the hoary rhetorical notions that have exceeded their sell-by date, the idea that developing countries will somehow leapfrog over developed countries with regard to access to broadband infrastructure should really be abandoned. This is akin to the myth that there are more telephone subscribers in Manhattan than the whole of Africa, which was popular in the 1990s and continued to be trotted out even when it was demonstrably no longer true.

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1 en.wikipedia.org/wiki/Web_2.0

With 70% of the population of OECD countries already connected to broadband internet infrastructure and universal broadband service on the horizon, there is nothing to leap-frog over.

Southern-based policy research centres have a more sober view on the matter. In its review of policy outcomes in Africa, Research ICT Africa! says the following:

> The excitement about the extension of telecommunications networks and services in countries across the continent over the last few years, particularly in the area of mobile telephony, should be tempered by the fact that these have not been optimal. While gains have clearly been made this review of the telecommunications sector performance in 16 African countries suggests that national policy objectives of pervasive and affordable ICT services are often undermined by many countries' own policies and practices, market structures and institutional arrangements. While Africa may have the highest growth rate in mobile telephony this is off a very low base. Large numbers of people do not have permanent access to basic telephony. The enhanced ICT services required for effective participation in the economy and society continue to elude the vast majority of the continent's people (Esselaar et al., 2007, p. 9).

It is likely that wireless networks, and not simply those of mobile operators, will play an important role in developing country access to broadband, particularly with regard to local access. But it is necessary to recognise the considerable complexity involved in building access to broadband in developing countries, which goes beyond the notion that mobile operators will simply supply it. At the IGF in Rio de Janeiro in 2007, African internet expert Mike Jensen (quoted in Jagun, 2008a) argued that reaching the goal of affordable universal access to broadband in developing countries requires the following combination of factors:

- More competition and innovation in the internet and telecom sector, with effective regulation.

- Much more national and international backbone fibre, with effective regulation of non-discriminatory access to bandwidth by operators and service providers.

- More effort to build demand, especially efforts by national governments to build useful local applications.

- Improved availability of electric power.

- Better indicators for measuring progress.

Speaking at an equitable access workshop before the Rio IGF, African telecommunications expert Lishan Adam identified the existing access gaps that are most stark in Africa, Latin America and Asia (Adam, 2008). Then, based on an analysis of the data and studies that have been made into why the policy programmes to stimulate access in developing countries have had such poor results, Adam posits a number of reasons for the failure by policy-makers and regulators to address these access gaps:

- Market-based approaches were not entirely effective in promoting equitable access – in particular, they failed to break fixed-line telecom monopolies and introduce effective competition in ICT networks and services.

- Regulatory institutions and frameworks remained rather weak. Roles and responsibilities between policy-makers and regulators were often confused, and regulators lacked the capacity to regulate effectively.

- Global regimes were not responsive to the need for equitable access. Developing countries lack the capacity to influence the shape of global ICT policy that cascades across regional and national domains.

After analysing three IGF workshops and the plenary session on access, APC identified a convergence of views on access as follows:

- First, there appeared to be agreement that the competitive (market) model[2] has been effective in increasing access in developing countries. There were therefore calls for policy coherence in the telecom sectors of developing nations and specifically for the principles of competition to be consistently and evenly applied to all areas of the telecom sector.

- Second, there was recognition of the applicability of collaborative models for providing access in areas where traditional market models seem to have failed. Such areas include rural and other underserved areas where the participation of diverse network operators and providers – including municipal government authorities, cooperatives, and community operators – has contributed to increasing access. There were therefore calls for the review of policy and regulation and the establishment of incentives to facilitate increased participation by this cadre of operators.

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2 One in which consumers are able to select, from a range of providers, the product that best matches their needs at a price they feel is acceptable.

- Third, there continues to be conviction and consensus on the potential of ICTs as tools for development – particularly at the level of rural and local access. ICTs can be used in increasing accessibility to healthcare and education; they can help in decreasing vulnerabilities and improving citizen engagement with governments and their institutions. There was therefore a call for the promotion and adoption of a multi-sectoral approach in achieving universal, affordable and equitable access. Specifically, there was a recognised need for the integration of ICT regulation and policy with local development strategies, as well as the exploitation of complementarities between different types of development infrastructure (for example, transport networks, water pipes/canals, power/electrification, communication, etc.) (Jagun, 2008a).

However, there are apparent contradictions between some of these points. For example, there is (at least at face value) an inherent contradiction between acceptance of the "efficacy" of competitive models and their promotion in the telecom sector, and the call for increased participation of a more diverse range of network operators and providers, most of whom adopt non-market models to achieve wider access in rural areas. Will all stakeholders truly agree that in order to make universal access a reality, competitive models need to coexist with collaborative ones? One can see fault lines around the roll-out of municipal wireless networks running into opposition from private network operators in the United States (US).

This may not be a problem in developing countries where there is still considerable involvement of the public sector in ICT network provision and an increasing role in ICT services like e-government. In many developing countries the attempts to privatise public telecom operators had negative consequences for the introduction of competition and for reducing access gaps (Horwitz & Currie, 2007). It is unlikely that there will be a pure market approach in countries where the notion of the developmental state is prevalent. It is more likely that the primary modification of the telecom reform model will be that there is a role for public sector and community network provision within a predominantly competitive environment as long as it is transparent and non-discriminatory. Anyone can play, as the open access principle goes.

What is also needed is a modification of the mandates for universal access funds in developing countries to support the roll-out of community wireless networks in rural areas, as well as for capacity-building programmes and local content development to enable citizens to use ICTs effectively in local languages. Policy-makers and regulators need to support this roll-out with enabling regulations liberalising voice

Figure 1: **Concentric circles of monopolistic barriers**
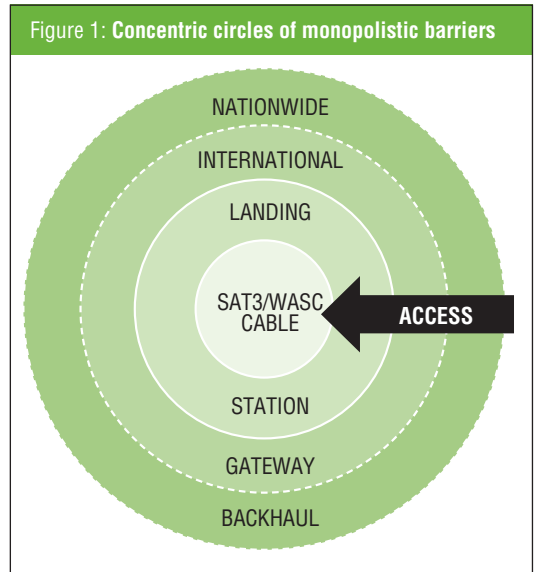
over internet protocol (VoIP), allowing community access to spectrum, and creating simple licensing and interconnection regimes for community-based networks.

Access to fibre remains a problem for many developing countries. On the west coast of Africa, the problem has been compounded by the continued dominance of moribund monopolies propped up by rent-seeking patron-client networks in government. Research into the operations of the SAT-3/WASC[3] cable has identified what needs to be done to break these monopolies (Jagun, 2008b).

ICT for development analyst and researcher Abiodun Jagun illustrates what she calls the "reinforced monopolies" that inhibit the economic and developmental potential of the SAT-3/WASC cable from being realised in Figure 1. The diagram represents the varying kinds of monopolies of the cable that exist in many of its beneficiary countries in sub-Saharan African. It shows the monopolies operating at different levels, such as international gateway licences, landing stations, national backhaul network, etc. Those who want to "access" the bandwidth need to navigate these monopolies.

The solid lines represent pure monopolies. For instance, when the research was conducted, the SAT-3/WASC cable was the only fibre-optic cable offering connectivity to many countries in sub-Saharan Africa. In many cases the SAT-3/WASC landing station is also only restricted to one signatory.

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3   South Atlantic 3/West Africa Submarine Cable.

Sorting out a policy and regulatory problem of this magnitude illustrates the complexity of what is at stake in building broadband in developing countries. And without resolving the problem of affordable access to international bandwidth, the promise of mobile operators to provide broadband internet access will be inhibited.

Nevertheless, sometimes a simple manoeuvre by a regulator can make a dramatic change in a seemingly hopeless state of affairs. One example is the case of Mauritius, where the regulator invited the monopoly operator into a price determination proceeding which enabled the issue of the high cost of international bandwidth to be discussed in public with full transparency. The outcome was that the regulator was able to get the operator to lower its prices for international bandwidth (Southwood, 2008). A problem, however, is the state of governance in developing countries. Developing country governments are often the worst enemies of their citizens. They lack the capability to get things done, lack responsiveness to their citizens' needs and rights, and are unaccountable for their actions. There may be all the consensus in the world as to what can be done to improve equitable access to ICTs, but it will be of little use if the state is dysfunctional. This is not to say that poor governance is limited to developing countries, but its impact is so much greater in countries that lack institutional capacity generally, and have to cope with poverty, conflict and lack of resources. This is a major challenge when it comes to equitable access.

Fortunately there is a growing awareness in most developing country governments of their shortcomings with regard to governance. The issue is on the agenda globally and nationally with international agencies developing indicators to measure good governance, such as the World Bank Institute's Governance and Anti-Corruption programme, which produces a set of governance indicators for each country reflecting:

- Voice and accountability

- Political stability

- Government effectiveness

- Rule of law

- Regulatory quality

- Control of corruption.

The indicators are a form of incentive to some developing countries to improve their standing, but they are also useful for civil society organisations to understand where the governance problems in a particular state lie and what space

there is for effective advocacy on equitable access. The indicators on regulatory quality and government effectiveness are particularly important here.[4]

However, what is missing in the good governance methodology is sufficient recognition of the role of patron-client networks in developing country governance. The ITU-D (the telecommunications development sector of the ITU) never addresses this in its engagement with developing country governments and regulators. The various ITU policy documents are disseminated in what amounts to an apolitical state, suggesting there is a straight line between following their policy advice on communications policy reform and positive outcomes on the ground. This lacuna in communication policy reform – that it tries to address policy and regulatory shortcomings as a function of institutional failure and the incorrect application of incentives in the language of institutional economics – does not reach into the realities of client-patron relations and rent-seeking in the politics of developing countries (Khan, 2004). There is unlikely to be much improvement in communications policy reform until these political dynamics are addressed.

The critical success factor of working towards good governance is the extent to which developing countries take it seriously themselves, without the prompting of developed countries and international development institutions. Within Africa, the New Partnership for Africa's Development (NEPAD) has initiated a peer review process which examines:

- Democracy and good political governance

- Economic governance and management

- Corporate governance

- Socio-economic development.[5]

Such steps are important and help create a climate for good governance, which in turn may enable effective ICT regulators to emerge as greater awareness of the value of good governance grows. More effective government may lead to a situation such as in Kenya. There the government is driving the expansion of broadband access in the country and across the region by taking the initiative to lay a fibre-optic submarine cable, TEAMS,[6] and then applying the lessons for broadband delivery systematically and coherently with

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4 World Bank Institute Governance and Anti-Corruption programme: web. worldbank.org/WBSITE/EXTERNAL/WBI/EXTWBIGOVANTCOR/0, contentMDK: 20672500~menuPK:1740553~pagePK:64168445~piPK:64168309~theSitePK:1 740530,00.html
5 African Peer Review Mechanism: www.nepad.org/aprm
6 www.engineeringnews.co.za/article.php?a_id=120703

the enthusiastic support of all stakeholders. If the Kenyan government can pull this off, it will provide a powerful example for other countries in Africa to follow.[7] ▪

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7   The Kenyan case is interesting in that the country scores quite well on accountability and regulatory quality indices, while doing poorly in other governance indicators. One dimension in Kenya is an awareness that political stability is fragile, which policy-makers like the permanent secretary in their ICT Ministry incorporates into planning as far as he can.

GLOBAL INFORMATION SOCIETY WATCH 2008 is the second in a series of yearly reports critically covering the state of the information society from the perspectives of civil society organisations across the world.

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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