GLOBAL INFORMATION SOCIETY WATCH 2008

Focus on access to infrastructure

Global Information Society Watch

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Former Soviet Union

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Introduction

The vast region of the former Soviet Union (FSU) – from the relatively prosperous new member states of the European Union (EU) to the impoverished countries in the Caucasus and Central Asia – is unsurprisingly home to extremely varied levels of information and communications technology (ICT) development. The small Baltic countries – Estonia, especially – have become leaders in e-government and e-participation not only among FSU states, but in Europe as a whole. In these countries, and to some extent in larger nations such as Russia and Ukraine, the digital divide has continued to close between the poorer and wealthier segments of society: the penetration of the internet and telecommunication services has risen uninterruptedly, and development has taken place with local and foreign investment and without overwhelming bureaucratic or regulatory hurdles.

At the other extreme are the countries of the Caucasus and Central Asia – the focus of this report, since access to infrastructure remains much more critical here than in the rest of the FSU. The impediments to access range far and wide. Similar to countries closer to the West, these nations still suffer mightily from the heritage of the Soviet Union, including a closed, often corrupt political elite short on transparency and good governance skills – let alone ICT knowledge. Simmering conflicts have sometimes soured neighbours on cooperation and made connecting parts of the region – already difficult because of rough terrain – an even greater challenge.

Telecom infrastructure is outdated and the small local markets continue to attract only a relatively small amount of capital, usually from Russian rather than West European investors. ICT skills are lacking, even in the industry.

All of this has added up to high costs of access for consumers, especially for broadband services, and especially for the majority of the local populations that are still struggling to survive in these transition economies.

Legislative reform is not enough

In perhaps the most in-depth study of ICT development in Central Asia in recent years, the director of the Telecoms Research Project at the University of Hong Kong, John Ure, notes that the problem in Central Asia no longer lies in non-existent or poor legislation that fails to enable ICT development. On the contrary, he says, well-meaning donors have funded programmes to overhaul the archaic post-Soviet legal system and support the passage of laws to promote e-government, e-commerce, and data protection, among other things. The main obstacle now is the lack of impetus from above to follow through and respect the letter and intention of the law – a direct heritage of decades of communist rule. "The reality in the Central Asian countries is that not even in the most 'independent' case, for example Mongolia, is the regulator given a genuinely free hand and the resources to do the job," Ure writes. He goes on:

> The reason is not a resource issue as such, but a governance issue. Transitional economies take time to change their legal structures, their cultures, their civil service management and career structures, and so on. It would therefore be far more productive to direct resources at the implementation level and allow regulators to gather more professional capacity and develop transparency than to focus in the short term on the ideal regulatory structures (Ure, 2005, p. 11).

Ure's thesis, though directed at Central Asia, could as well cover the Caucasus and parts of Eastern Europe, where the business and political elite have often been in cahoots to delay privatisation and preserve the monopolies of government-controlled telecoms industries – or, on the contrary, to award prized licences to politically connected firms that might not offer the best services (most of the FSU countries remain among the most corrupt countries in the world, as measured in surveys such as Transparency International's Corruption Perceptions Index).[1]

Skills deficit

Yet even with the right motivation on the part of the authorities, project management skills and ICT literacy remain deficits not only in the halls of government, but also in the private sector. At an *info*Dev workshop in 2005, ICT practitioners from Eastern Europe and Central Asia – most of them managers and staff of business incubators and other innovation and entrepreneurship organisations – noted a number of barriers to greater development. These included low ICT literacy among entrepreneurs, and even among specialists working in the field and at business incubators; inadequate protection of intellectual property; and problems in raising capital for small and medium enterprises (SMEs) (*info*Dev, 2005).

Part of the problem is that across Eastern Europe and the former Soviet Union, women have been severely underrepresented in ICT projects, according to a comprehensive report on the gender digital divide published by the United

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1   www.transparency.org

Nations Development Fund for Women (UNIFEM) and United Nations Development Programme (UNDP) (Simerska and Fialova, 2004). Researchers found that at all levels of ICT initiatives, gender-specific issues had been poorly integrated or not considered at all in policy design. The region has largely been left out of global debates and international movements related to ICTs and gender, as donors have focused more on lesser developed countries in Africa and Asia. Overall, this has contributed to limited awareness of ICT policies and practices among women's groups, as well as a lack of advocacy to address gender in ICT debates, even from the ranks of activist groups working on women's issues.

Authoritarian practices

Another major obstacle in the region remains the authoritarian and semi-authoritarian practices of a number of the region's governments, which have stymied access to the internet and kept a heavy, Soviet-like hand on many levels of the economy, including the telecommunications sector. Combined fixed-line and mobile teledensity in Turkmenistan, for example, was estimated at just 16% in late 2007.[2] Only an estimated 1.4% of the population has internet access, partly as a result of the xenophobic authorities strictly controlling access (as well as blocking "unfriendly" sites, a widespread practice in Uzbekistan as well).[3] The Ministry of Education has promised to "fully computerise" schools throughout the country, but its recent purchase of 12,000 computers only amounts to one computer per 80 students (Mitas, 2008). Only a few of those apparently have internet access. As Stefan Mitas notes in a recent article, "Outside of the 20 schools connected by a United Nations Development Programme initiative, it is unclear how many schools have been connected, and whether they have any access to the wider internet outside a locally based and government-controlled education portal. Ministry of Education officials restrict access to schools by foreigners and researchers, making verification of their connectivity claims nearly impossible" (Mitas, 2008).

With the government still the dominant player in most countries, the private sector has been hard-pressed to come up with alternatives that would lower the high costs of access (roughly USD 80-90 per month for broadband access in Central Asia, for example). The domestic markets for ICT companies remain small, yet political tensions among neighbouring countries and a lack of free trade agreements (as well as a paucity of local capital and foreign direct investment) have hindered cross-border trade and expansion.

2   www.budde.com.au

3   www.itu.int

International support

International donors have stepped in to fill part of the gap, playing a major role in ICT development, with the World Bank and European Bank for Reconstruction and Development at the forefront. Numerous other multilateral organisations (especially UN agencies) and foreign governments, as well as private foundations and export-import banks, have also pitched in. Besides policy and legislative reform, their priorities have focused on capacity building in the state administration, including introducing e-government mechanisms; creating e-community portals on the local level; and spreading the use of computers and internet access in schools (Ure, 2005).

Still, even with such efforts, the countries of the Caucasus and Central Asia do not appear to be have been particularly active in terms of actions related to World Summit on the Information Society (WSIS) commitments, at least judging from the latest WSIS stocktaking report (ITU, 2008). In contrast to the Baltic countries, which submitted a wide range of impressive projects to the stockholding database, rare are the entries highlighted in the report from this part of the FSU. Among the few examples are the State Programme on Development of Communication and Information Technologies (2005-2008) of Azerbaijan, which focuses on the harmonisation of telecommunication, postal and information technologies with international standards to improve services; and Georgia's School Computerisation Programme (2005-2009), which envisions improving the computer-to-student ratio from the current 1:200 to 1:20 by providing computer rooms in 2,700 public schools, and boosting the ICT skills of teachers and students alike.

As a result, access to ICT infrastructure in Central Asia and the Caucasus remains far behind other FSU countries, such as Ukraine, Belarus, and Russia – let alone the Baltics or the formerly communist countries of Central Europe. Ure uses International Telecommunication Union (ITU) data on "effective" teledensity per capita (meaning the number of fixed or mobile lines, whichever is the greater, per 100 of the population) to posit geography as the main reason for the variance, since all the countries face similar post-Soviet realities such as state-run or controlled monopolies, increasing competition among providers of mobile and internet services, and the usual line-up of international donors. The landlocked Central Asian states, and to some extent the countries of the Southern Caucasus, however, remain relatively isolated from Western markets, capital, and ICT trends.

This has also certainly been true in the case of backbone infrastructure such as fibre, where the mountainous,

difficult terrain of large parts of the region has complicated the creation of new networks – a situation which has been exacerbated by the simmering conflicts that have hampered the spread of technology. For example, ongoing disputes between Armenia and Azerbaijan, Armenia and Turkey, and Georgia and Russia have led to border closures and, correspondingly, hindered the spread of dark fibre links between countries in the South Caucasus (Sima, 2007). The recent war between Russia and Georgia could also affect the already expensive usage of the Black Sea fibre-optic cable that stretches between the port of Poti in Georgia to the city of Novorossiysk in Russia (most of Georgia's access to the internet flows through Russia and Turkey, though a new undersea cable leading to Bulgaria should be finished in the fall of 2008) (Markoff, 2008). Similar obstacles pertain to Central Asia, with the war in Afghanistan continuing uninterrupted next door and lingering border disputes among several of the Central Asian countries themselves, including some related to limited resources such as water.

These impediments – plus the relative unattractiveness of the small local markets for outside investors in infrastructure – slowed fibre development until recently, and led international donors to launch several satellite-based projects, in particular aimed at linking local researchers and academics to networks in the EU. The most prominent of these is the Silk Project (punning on the Silk Road or trade routes idea), which provides connectivity via satellite for National Research and Educational Networks (NRENs) in the countries of the Caucasus and Central Asia (including Afghanistan) to GÉANT2.[4] GÉANT2 is high-bandwidth internet connectivity serving Europe's research and education community, and already reaches the Baltic states and Russia (among the other countries of the FSU).

The Virtual Silk Highway, as the project is also known, has received most of its funding from the North Atlantic Treaty Organisation (NATO), but Cisco Systems donated USD 400,000 worth of equipment that was installed at eight NRENs, and Deutsches Elektronen-Synchroton, a German research institute, has provided in-kind management of the network. NATO has agreed to fund the project until at least late 2009. An accompanying project, called OCCASION,[5] manages SILK-2, the second generation of this research network, and provides assistance in the development of the region's NRENs, especially in the area of self-sustainability. Another goal is to monitor the region's advancement toward an international fibre network, which was also the subject of a major international feasibility study co-funded by the European Commission. The Porta Optica Study, which was completed in 2007, aimed to stimulate the "successful deployment" of a dark fibre-based network in Eastern Europe, the Baltic States and Southern Caucasus.

Several Japanese companies presented another fibre-based proposal, again playing on the Silk Road motif, at the Workshop on Broadband and ICT Development for Improved Communications in Central Asia in June 2007. Organised by several UN agencies and other organisations and governments, the conference was held in Uzbekistan and included representatives from both the public and private sectors. Speaking on behalf of the NTT West Corporation and Info-Com Research, respectively, Kiminori Sato and Yonosuke Harada called for a Silk Road Broadband Highway, a new fibre-optic backbone to increase reliability and escape an overdependence on submarine cables and the Trans-Asia-Europe (TAE) optical fibre cable network.[6] TAE stretches from Frankfurt to Shanghai – running through a large swath of the FSU – but, the presenters said, had limited potential because it was built for telecommunications rather than broadband and would not be able to meet future demand for broadband services (Sato & Harada, 2007).

Even if any of these ambitious plans takes off, ICT users in the Caucasus and Central Asia will probably end up using a mix of fibre, radio and satellite methods to access the internet and the high-speed networks of Europe and Asia. Even if new fibre networks appear and lower the cost of broadband, their reach will likely not extend far beyond major urban centres, mandating satellite access for the region's many rural areas and remote mountain regions.[7] While progress has been made, especially over the past five years, in deregulating the telecommunications markets throughout the FSU, state-controlled operators remain dominant and the need for capital investments to upgrade technology is urgent. Interest in accessing infrastructure, especially the internet, continues to rise unabatedly, but high costs that result from the many reasons described above could continue to damper demand for years to come. However, with the economy improving in parts of the region, especially in areas with rich gas and oil deposits, private companies may well become interested in investing in new networks if the region's governments can prove at least partially successful at implementing all those policies that look so good on paper. ▪

4   www.geant2.net

5   www.ist-occasion.org

6   taeint.net/en

7   www.silkproject.org/project.htm

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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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