

## THE E-CITY: SINGAPORE

**S**ingapore's population of around 4 million (3.0 million citizens) is predominantly Chinese (77%), followed by Malay (14%) and Indian (8%) ethnic groups. Singapore was one of the first countries in Asia to get an Internet connection in August 1990. By June 2000, there were 18 licensed ISPs and 1.8 million dial-up subscribers, resulting in a penetration rate of 54.2%. Singapore is actively promoting high speed Internet access. Over 99% of the island's households are passed by broadband infrastructure.



Students creating 'Digital Art' at the Radin Mas Primary School. By the end of 2000, all of Singapore's primary and secondary schools had Internet access.

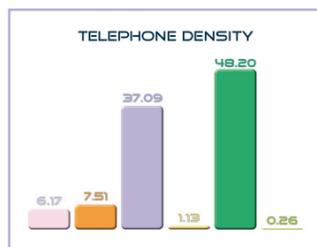
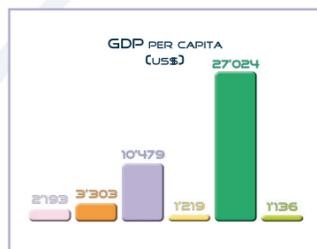
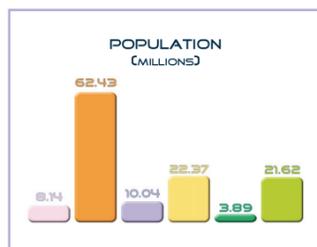
## INTERNET IN A TRANSITION ECONOMY: HUNGARY

**A**bout 59% of Hungary's 10.4 million population live in towns with more than 10'000 inhabitants. The Internet in Hungary goes back to 1988, when the Hungarian Academic and Research Network, HUNGARNET was created, allowing researchers to send e-mails to each other and exchange files. Commercial ISPs first appeared in the mid-1990s and there were over 100 licensed ISPs in early 2000. In mid-2000 there were about 180'000 dial-up subscribers and 715'000 users (a penetration of 7.1%). The growth in Internet usage is largely due to HUNGARNET's "subscription-free" academic network.

## INTERNET IN THE ANDES: BOLIVIA

**A**bout 37% of Bolivia's 8.3 million people live in rural areas. Bolivia has the biggest indigenous population in Latin America and there are three official languages: Spanish and the Indo-American Aymará and Quechua. The .bo domain name first appeared on the Internet in July 1995. At the beginning of 2000, 10 active ISPs provided an estimated 90'000 users with access to the Internet. Although this puts Internet penetration at not much more than 1%, growth has been high, partly as a result of growing Spanish language content.

A telecom center in La Paz providing a range of services, including mobile phone recharging and Internet access.



● BOLIVIA  
● EGYPT  
● HUNGARY

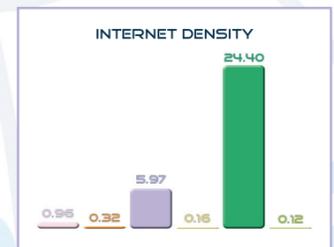
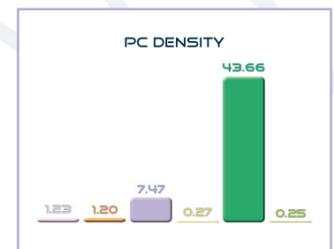
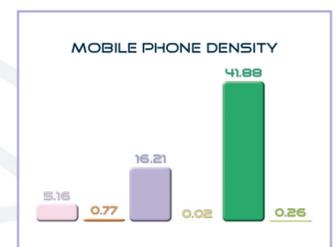
# INTERNET AROUND THE WORLD

**W**hile the development of the Internet in developed countries has been widely documented, its diffusion in developing nations has generally not been well researched. Analyzing the diffusion of the Internet in countries at different stages of development helps us to understand:

- Which factors accelerate or retard the development of the Internet in different environments?
- Which policies and actions should policy makers and regulatory agencies implement?

A first round of studies (in 2000) was carried out in Bolivia, Egypt, Hungary, Nepal, Singapore and Uganda. The countries vary widely in socio-economic and telecommunication development. They range from least developed nations (Nepal and Uganda) with low telephone densities to Singapore, the eighth richest country in the world (measured on a GDP per capita basis), where almost every household has a telephone.

[www.itu.int/ti/casestudies](http://www.itu.int/ti/casestudies)



● NEPAL  
● SINGAPORE  
● UGANDA

## INTERNET IN EAST AFRICA: UGANDA

**O**ver 85% of Uganda's 22 million citizens live in rural areas. Limited commercial e-mail services became available in August 1994 and the first host was detected in July 1995. Eight ISP licenses had been issued as of February 2000. There are some 4'000 Internet subscribers and an estimated 25'000 users in the country. One inhibiting factor to Internet growth is the high cost of dial-up access.



Internet demand in Uganda is high as evidenced by an explosion of cyber-cafés in Kampala over the last year. E-mail can also be sent and retrieved from the main post office in the capital.

## INTERNET ON THE NILE: EGYPT

**O**ver 45% of Egypt's 62 million people live in urban areas and about 15 million in Cairo. In 1994 the government began offering free Internet accounts to government agencies and in 1995 commercial Internet services were launched. Today, there are more than 60 ISPs, roughly 55'000 subscribers and an estimated 220'000 Internet users (which represents 0.35% penetration). Uniform nationwide Internet pricing has been assured since December 1999. Users dial a special number for Internet access and are charged on a per minute basis.

## INTERNET FROM THE TOP OF THE WORLD: NEPAL

**T**he Kingdom of Nepal has around 22 million inhabitants, 91% of which reside in rural areas. Nepali, spoken by about half the population, is the official language. Nearly half the population lives below the poverty line. Dial-up e-mail services were first offered in 1994. By January 2000, eight ISPs were serving some 9'000 subscribers and an estimated 35'000 users (0.15% of the population). Recommendations for enhancing Internet diffusion in Nepal include developing rural Internet access centers and introducing a full-fledged second telecom operator able to provide any service.



Sanjib Raj Bhandari, Chairman of Mercantile Communications, Nepal's first ISP. Behind him is a VSAT antenna. The liberalization of VSAT use has played a significant role for enhancing international Internet connectivity in landlocked countries such as Nepal.



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**CREDITS:** A wide range of people contributed to the case studies. They include Tim Kelly, Ben Petrazzini and Lara Srivastava of the ITU; Sy Goodman and Larry Press of the Mosaic Group; Sonia Jorge of DNTA; and Walter Brown, currently Chief Executive Officer of Lesotho Telecom. National counterparts included Ismael Carrasco (Bolivia), Godfrey Kibuuka (Uganda), Meng Chung Lee (Singapore), Mahesh Malla (Nepal), Jozsefine Pergel (Hungary), and Magda Ismail (Egypt). Special thanks to Vanessa Gray and Nathalie Delmas for editing and formatting the studies. Poster designed by Pierre Granier and Stéphane Rollet.