

Tariq Mohammed, *Harvard University*
Carlos Osorio, *Harvard University*

“ It would be ideal if the authorities work hand-in-hand with the private sector to implement an IT development plan...”

—*CIO of Nicaraguan IT company*

“ Promises of greater access to IT [are being used] in generating support for political campaigns—[this] demonstrates that IT is in the mind of the politicians.”

—*Nicaraguan IT executive*

Natural disasters, political turmoil, and economic woes have all had negative impacts not only on overall economic development in Nicaragua, but also on the nation's Networked Readiness. The Nicaraguan economy is largely dependent on global commodity markets. The nation faces major development challenges, including widespread poverty, poor infrastructure, and decaying health and educational systems. Nicaragua ranks sixty-ninth overall in Readiness for the Networked World.

As a Highly Indebted Poor Country, nearly 30 percent of Nicaraguans live in poverty,¹ which, when added to high access costs and predominantly urban telephony coverage, makes Internet access impossible for most of the population.

There have been a number of problems in reforming the telecommunications regulatory environment in Nicaragua (Ranking in ICT Policy micro-index: 73). Consecutive attempts to privatize Empresa Nicaraguense de Telecomunicaciones (ENITEL), the state-owned telecommunications company, in 1996, 1999, and 2000, were unsuccessful. Partial privatization occurred in August 2001 when a consortium led by Swedish operator Telia bought a 40 percent stake. This was accompanied by legal controversy that ignited political opposition.

In 1998, Hurricane Mitch caused an estimated US\$12 million in damage to the country's already poor telecommunications infrastructure² (Ranking in Information Infrastructure micro-index: 69). Network access is very limited nationally. Teledensity in Nicaragua is the lowest in Central America, another factor that has hampered growth of the Internet. There are eighteen operational ISPs with approximately 25,000 subscribers.

The mobile telephony market is expected to grow with the issuing of a Personal Communication System (PCS) license to

Grupo Azteca, a Mexican telecommunications company with rights to national coverage. The two existing mobile providers are limited to providing services on one of the coasts—Bell South (with a 55 percent digital network) serves the Pacific coast, and Teleglobo (analog cellular) serves the Caribbean coast.

There are very few computers, let alone Internet connections, in Nicaraguan primary and secondary schools (Ranking in Internet Access in Schools: 69). At the tertiary level, Nicaragua is participating in the RedHUCyT project, which aims to create a hemisphere-wide interuniversity scientific and technological network. The project is helping to develop the first Nicaraguan Academic Network.

According to Nicaragua's Network Information Center, there were only 1,756 first- and second-level Nicaraguan Internet domains as of September 2001 (sixty-nine from government organizations, some of which do not work), an indication of the modest development of locally relevant Web content and services.³ The most common Nicaraguan websites cover news or advertise goods and services.

A small number of firms have adopted B2C e-commerce, but it is still in its infancy due to low Internet penetration, unreliability of the postal system, and lack of access to credit cards. Nonetheless, in B2B e-commerce, one Nicaraguan bank has begun to offer online payment capability to employees and suppliers.

Internet access became relevant enough to be an issue during the presidential campaign leading up to the November 2001 election. Nonetheless, illiteracy, poverty, poor infrastructure, and, in general, building enabling factors for Networked Readiness (Ranking in Enabling Factors component index: 73) will continue to be major long-term challenges.

Key Facts

Population	5,074,000
Rural population (% of total population) 1999	44.22 %
GDP per capita (PPP)	US\$2,396
Global Competitiveness Index Ranking, 2001–2002	73
UNDP Human Development Index Ranking, 2001 (adjusted to GTR sample)	67
Main telephone lines per 100 inhabitants	3.04
Telephone faults per 100 main telephone lines	79.30
Internet hosts per 10,000 inhabitants	2.76
Personal computers per 100 inhabitants	0.79
Piracy rate	78.00 %
Percent of PCs connected to Internet	2.62 %
Internet users per host	19.10
Internet users per 100 inhabitants	0.41
Cell phone subscribers per 100 inhabitants	0.89
Average monthly cost for 20 hours of Internet access	NA

RANK

Networked Readiness Index 69

Network Use component index 65

Enabling Factors component index 73

■ Network Access 69

Information Infrastructure 69

Hardware, Software, and Support 69

■ Network Policy 72

Business and Economic Environment 71

ICT Policy 73

■ Networked Society 68

Networked Learning 67

ICT Opportunities 66

Social Capital 70

■ Networked Economy 69

e-Commerce 68

e-Government 64

General Infrastructure 75