

Telecentres in Low-Income Nations

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INTRODUCTION

Dial-up Internet access, wireless mobile services, cybercafés, etc., are fundamentally changing the nature of communications and knowledge and information access for millions around the globe. However, many remote, rural, and disadvantaged urban communities in low-income nations still lack access to the very ICT tools that can help to improve their lives. Many governments lack the commitment or capacity to provide the infrastructure, and many communities lack the resources or technical expertise to use the technology. For example, excluding the more developed regions of South Africa and northern Africa, only one in 250 Africans can access the Internet, compared to one out of every two persons in North America and Europe. Similar digital divides plague the Asia-Pacific region and Latin America (NUA, 2004).

Telecentres can provide a way of providing ICT-enabled education, training, information, and e-commerce in these regions, empowering and supporting community self-development.

TELECENTRES: SOME GLOBAL EXPERIENCES

Telecentres (also known as telecottages, information kiosks, infocenters, cabinas públicas, espaces numérisés, telestugen, etc.) are one-stop shops providing satellite or local ISP Internet connection, free or heavily discounted telephone, fax, e-mail, and Internet services, ICT training and support, education, news, information, e-commerce and telework opportunities, etc. Some are stand-alone, while others are networked. They are variously accommodated in community centers, shops, marketplaces, and other settings where people naturally congregate.

The telecentres movement started in Scandinavia in the mid-1980s. It then spread to Western Europe, Australia (Short, 2001; Gooley, 2001), North America (Sheppard, 2001; Hartig, 2001), the former Eastern Bloc countries (Murray, 2001), and finally, low-income nations.

Some low-income nation community telecentres have been established with funding and support from international agencies such as UNESCO and International Telecommunications Union (ITU); some through the Microsoft Unlimited Potential initiative (Microsoft, 2004);

some through national development agencies such as USAID, DANIDA, and Canada's International Research and Development Center (IDRC) working in partnership with local stakeholders; and some by local institutions, nongovernmental organizations (NGOs), entrepreneurs, and public-private partnerships.

Latin America and the Caribbean

Latin American governments are interested in the power of the Internet and telecentres to promote socioeconomic development and democracy. The Venezuelan government has established 243 infocenters providing free Web access in libraries, museums, town halls, and NGO offices, and plans to open many more. In Brazil's largest city, San Paolo, 100 infocenters allow people to surf the Internet free. In Chile, 294 telecentres offer discounted rates for isolated rural communities and poor urban neighborhoods.

In Paraguay, the Municipality of Asunción and USAID have collaboratively established "Aulas Municipales de Información, Comunicación y Aprendizaje" or AMIC@s in municipal centers, schools, a cultural center, a bus station, a market, and a public park in poor neighborhoods. These AMIC@s are run by volunteers who are familiar with the local communities, and they enable disadvantaged adults and children to be trained in ICT, browse the Web, e-mail, chat, videoconference, seek employment, learn about government and community services, design their own Web sites, etc. (Aranda & Fontaine, 2001).

The Mexican government's e-Mexico initiative (<http://www.e-mexico.gov.mx>) includes the establishment of 20,000 "Centros Comunitarios Digitales" or "community plazas" for disadvantaged rural communities. Equipped with computers, Internet connection, satellite television, and, in some cases, videoconferencing facilities, these centers are designed to increase access to education, health, and other public services. The National Institute for Adult Education is piloting distance-education programs for the educationally disadvantaged through a mix of face-to-face instruction by plaza coordinators, educational television, Web conferencing, and e-mail. The first of these programs was "¡Agua con las adicciones!" ("Beware of addictions!").

Other Latin American initiatives include the INFOCENTROS project in El Salvador (<http://www.infocentros.org.sv>), the www.telecentro.cl in Chile and the 1600 Centros Tecnologicos Comunitarias in Argentina (<http://www.tele-centros.org>).

The Barbados Government, conscious of the importance of ICT in learning, business, and recreation, has launched a Community Technology Program within which 30 of the island's community centers and sports pavilions have been converted into ICT resource centers providing free access and training. Equipped with Internet-connected workstations, printers, scanners, and other peripherals, these centers have been designed to serve those on low incomes with limited educational opportunities and encourage small local enterprises to use ICT.

Further accounts of telecentres in Latin America and the Caribbean appear in Márquez (2004), Hunt (2001), and Delgadillo and Borja (1999).

Asia

India, with a telephone penetration level of less than 4%, has a great need for increased ICT access. Telecentres can be invaluable in those rural areas where 70% of the subcontinent's billion people live, providing access to computers and the Internet, agricultural and market information, e-commerce opportunities, and educational and vocational programs (Panda & Chaudhary, 2001).

Warana Wired Village (<http://www.uncrd.or.jp>; <http://www.sustainableicts.org>) is designed to accelerate socioeconomic development in 70 villages in Maharashtra State. Kiosks have been set up with dial-up capability and uninterrupted power supply (UPS) backups or high-speed, receive-only VSATs (very small aperture terminals) to provide free access to educational and agricultural information in the local language, Marathi. The centers' part-time managers are appointed by the village councils or *panchayats*. A central hub at the Institute of Engineering Technology facilitates all applications. The project has received strong political support, but slow Internet connections, low levels of literacy, and limited community awareness of the possibilities prevent these centers from being fully exploited.

The National Institute of Agricultural Extension Management (MANAGE) in Hyderabad, Andhra Pradesh (<http://www.manage.gov.in>) has piloted information kiosks in village cooperatives and council offices. Each kiosk serves 25 to 30 villages (up to 30,000 people) and provides training in ICT, especially for women and children, farming and agribusiness information, and e-learning on childcare, health care, and other useful topics. These centers are currently hindered by poor Internet connections and the limited number of Web sites in the local language (DFID, 2003).

Gyandoot ("purveyor of knowledge"; <http://gyandoot.nic.in>) is a Madhya Pradesh Government intranet system connecting over 80 rural cyber kiosks throughout Dhar District. These kiosks again serve 25 to 30 villages and are based in local schools or run by local entrepreneurs in *panchayat* buildings, marketplaces, and bus standpoints on major roads. Full Internet access is being progressively rolled out using wireless in local loop (WLL).

The Bangladesh Grameen Communication Village Computer and Internet Program, run by NGO Grameen Bank (<http://asp.grameen.com/dialogue/dialogue54/specialfeature.html>), has established two village telecentres, each equipped with eight computers and providing low-cost Web access and training in computing, word-processing, graphic design, etc. Due to the high cost and unreliability of the dial-up connections, the centers use a wireless link to connect to the Internet via Grameen's headquarters in Dhaka. To encourage local businesses and groups to go online, the centers also act as low-cost Internet service providers (ISPs). The centers are popular, helping to overcome problems of access and literacy, and being economical for the users. However, the local resources are insufficient to sustain these centers, and Grameen Bank has concerns about their long-term viability.

More information on other telecentres in India, Malaysia, Philippines, and Mongolia can be found on the Web at: <http://www.unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN006304.pdf> and <http://www.is.cityu.edu.hk/research/ejisd/vol4/v4r3.pdf>.

Sub-Saharan Africa

Telecentres in sub-Saharan Africa are feasible only with external support (Benjamin, 2001). A number of telecentre initiatives in Mozambique, Senegal, South Africa, Uganda, Mali, Benin, and Tanzania have been established under Acacia, an IDRC international research and development program designed to support the African Information Society Initiative (AISII; <http://www.bellanet.org>) and empower communities to apply ICT to their own social and economic development (web.idrc.ca/acacia). Some of these IDRC/Acacia telecentres have been co-funded by UNESCO and ITU.

Mayanja (2001) provides a case history of a UNESCO/IDRC/ITU-supported Ugandan telecentre, and Gaster (2001) describes two IDRC/UNESCO telecentres in Mozambique.

Support for telecentres in South Africa has largely been through the Universal Service Agency (USA), which provides access to ICT services denied to the black majority during the years of apartheid. USA-supported telecentres have been established where communities

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