Wondering About Telecentres:

can they contribute to sustainable development in Latin America?

Ricardo Gómez, Patrik Hunt, Emmanuelle Lamoureux
Contact: rgomez@idrc.ca, phunt@idrc.ca, elamoureux@idrc.ca
International Development Research Center (IDRC), Canada
May 1999

Telecentres are now the focus of much attention in international development discourse. Hailed as the solution to development problems by providing desperately needed access to information and communication technologies (ICTs), telecentres are springing up in Africa, Latin America and Asia. This paper examines the notion of telecentres under a critical light, suggests a typology to describe the diversity of experiences emerging, calls attention to the need for assessment of their impact on communities, and describes preliminary telecentre efforts in Latin America.

Why believe in ICTs for sustainable development?

The effect of the application of information and communication technologies on sustainable development efforts is far from clear, according to the United Nations Commission on Science and Technology for Development (UNCSTD) which recently spent three years investigating the benefits and risks of ICTs. The Commission found that " there are many instances where the use of ICTs is bringing widespread social and economic benefits. However, there are as many instances where ICTs are making no difference to the lives of people in developing countries or are even having harmful effects" (Mansell and Wehn, 1998). Furthermore, emerging studies show that many of the claims being made about the potential of ICTs for development are not supported, and point to possible counter-productive effects (Gómez, 1998).

While it is generally agreed that there exists potential for the use of ICTs in sustainable development work, a major stumbling block -- common to both developed and developing countries -- is how to assess the impact of ICT applications. A variety of factors account for this problem, including the sheer complexity of the task of measuring the impact of information on development (Stone and Menou, 1994), and "the lack of appropriate indicators of impact, combined with the absence of the financial resources in some developing countries to collect the relevant data" (Mansell and Wehn, 1998, 14). Furthermore, UNCSTD has identified " a growing literature on performance indicators that seeks to *assess the impact of ICTs from the perspective of specific user communities* rather than attempting to quantify the overall impact of investment in ICTs on the economy" (emphasis added) (ibid., 15). Until adequate methodology and tools are developed to effectively assess the social impact of the application of ICTs for sustainable development from the user's perspective, efforts to demonstrate how people are empowered by knowledge will lack credibility.

Given these considerations, the broad issues identified by UNCSTD as ICT opportunities for developing countries, including new types of learning and education, a 'wired' civil society, new forms of commerce and trade (Credé and Mansell, 1998), among others, all provide hints of tremendous potential. However, the discourse surrounding the introduction and use of ICTs often accepts uncritically the euphoric claims that they will finally help to solve persistent development problems, and ultimately bring about a brave new world replete with 'electronic agora' and 'online democracy' (Gore, 1996, 71).

Telecentres under the spotlight

In the international development sphere, the promise of information and communication technology is often promoted as a solution to broad, problematic issues such as the lack of universal access to telecommunication services for a majority of the world's people. In practice, this promise has increasingly taken the form of projects to build public-access facilities to provide electronic communication services, especially in marginalized or remote areas where commercial development of ICTs is not prevalent. There is a great variety of experiences of this kind around the world, many of them drawing on efforts to establish 'telecottages' and telecentres in Europe and North America. While these diverse public access facilities have been given many names (telecentres, telecottages, community technology centers, community communication shops, networked learning centers, multipurpose community telecentres, digital clubhouses, *cabinas públicas, infocentros, telecentros, espaces numérisés, telestugen*, community access centres, etc.), the word 'telecentre' serves as a generic term to encompass this array of experiences.

While there is no single definition of a telecentre to satisfy everyone, a common characteristic is a physical space that provides *public access* to ICTs for educational, personal, social, and economic development. Based on the premise that not everyone in the world has access to a telephone, much less a computer, fax service, Internet connection, or relevant information resources, telecentres are designed to *provide a combination of ICT services.* These range from basic telephone or e-mail service to full Internet/World Wide Web connectivity. Additional services may include fax and word processing, specialized information retrieval or applications such as tele-medicine or distance education. The broad conception of telecentres outlined here also includes 'phone shops' which may offer local and long distance calls, as well as fax service. This model has been quite successful in countries such as Senegal where they are known as *télécentres*.

Toward a Typology of Telecentres

Beyond these common elements of public access and ICT services, there is great variety in the way that telecentres are funded, owned and operated, as well as in the way they serve different kinds of users, and utilize different technology to provide service. IDRC's work in Latin America, Africa and Asia has helped us to identify at least six types of telecentre experiences, or models. These models are not exclusive, since some telecentres are in fact hybrid versions of two or three different types. They are presented in order to stimulate thought about issues of sustainability.

Basic Telecentre

The Basic Telecentre is generally located in rural or marginalized areas, where the population has limited access to services in general (communication or others), and where there are high rates of illiteracy. They tend to be small operations funded by international agencies and implemented by non-government organizations (NGOs) or other non-profit groups, with a small number of computers using dial-up connections to an Internet Service Provider (ISP) set up in a room or hut adapted for this use. In some cases, innovative Internet access solutions are being explored involving radio and wireless connectivity. Given the nature of this activity, a key ingredient for success is the training of operators and people from local communities who are potential users. The major challenge basic telecentres face is financial sustainability once donor support ends.

Experiences in Colombia and Ecuador (http://www.redes-comunitarias.apc.org/), the telecentre project in the village of El Limón, Dominican Republic (http://www.sas.cornell.edu/cresp/ecopartners/ruralinet.html), and the IDRC-supported Nabweru telecentre in Uganda (http://www.idrc.ca/acacia), all represent examples of this model.

Telecentre Franchise

A different approach to deployment is the establishment of a series of inter-connected telecentres, which are centrally coordinated but independently owned and operated. A local organization usually facilitates the creation of individual, networked telecentres through technical and/or financial support. The local private sector or the government may fund the first stage of implementation and provides some technical support. After establishment, each individual telecentre is run like a small business, eventually becoming independent both financially and technically. They generally feature a small number of

computers for public access and dial-up connections to ISPs.

The best known examples of the franchise model include the network of 190 *cabinas públicas* implemented by *Red Científica Peruana (RCP)* (http://ekeko.rcp.net.pe/rcp/servicios/cabina/) in Peru (of which 20 are still under RCP's management), and South Africa's Universal Service Agency project, with 6 pilot projects and 68 telecentres approved around the country (http://www.usa.org.za/project.htm).

Civic Telecentre
This kind of telecentre is probably the most common, but also the most difficult to identify. A variety of public libraries, schools, universities, community organizations, and other civic institutions are starting to offer public access to their computers and Internet connections. The primary focus for these groups is not the telecentre activity itself, since this is something that is offered in addition to their own public services. For instance, educational institutions may provide public access after regular operating hours, public libraries may set up Internet access to complement the information resources they offer, while a range of other community organizations may offer public access to their basic connectivity infrastructure.

Telecentres of this type generally offer limited services and little in the way of training for potential users, and often do not publicize their services very openly or outside the immediate community they serve. Access is also limited by the priority given to the primary activities of the host organizations. While donors and other international organizations have shown an interest in creating telecentres in public libraries or other public institutions, many of these organizations may not regard themselves as telecentres. Connectivity usually depends on a single dial-up connection (e.g. public libraries or community centres), or more sophisticated local area networks (LANs) and dedicated lines (e.g. in some schools and universities).

Important examples of Civic Telecentres include initiatives in and around Mexico City (efforts coordinated by Dr. Scott Robinson at Universidad Autonoma Metropolitana), the IDRC-supported Manhiça project in Mozambique, and the Amic@s effort in Paraguay. In Latin America, some Internet Service Providers also offer the local population access to their equipment and Internet connection.

Cybercafe
It is tempting to restrict this type of telecentre to 'democratic cybercafes', in view of the rapid growth of commercial Internet cafes in tourist areas and affluent neighborhoods in many cities. Democratic cybercafes may reduce this array to include those that offer preferential rates or services to community or local organizations, although they continue to be commercial businesses open to the general public. While technological infrastructure and connectivity varies, locations (e.g. sometimes even in hotel lobbies) and cost can easily prevent local, marginalized communities from using these services. The rapid growth and popularity of this kind of activity may point to a model for other types of telecentres to learn from. Cybercafes generally use dial-up connections and charge by duration of connection time.

Examples include the recent emergence of cybercafes in countries where connectivity had been very limited, such as Vietnam, Haiti, and Morocco, as well as throughout Latin America. While clientele often includes students, tourists, or international business people, potential use by local communities for development purposes remains to be explored. In the case of the few cybercafes located in remote and poor areas, attempts are often made to offer some level of public access which is separate from the principle business.

Multipurpose Community Telecentre (MCT)
Often referred to in a good-natured manner as 'the Cadillacs of telecentres', Multipurpose Community Telecentres (MCTs) are being introduced as pilot projects in a number of countries. These telecentres offer more than basic ICT services, focusing on specialized applications such as tele-medicine and tele-education. They " ... should also provide postal and banking services and function as an outlet for other communal services such as water and electricity. A maximum offer of 'private' information and communication services, such as tele-trading, rental of virtual offices, vocational training courses and support to SMEs " (Ernberg, 1998a, *Universal Access for Rural Development*, 6). MCTs tend to

establish Internet connections via leased lines or ISDN (Integrated Services Digital Network), with local area networks connecting a number of computers (e.g. 3-20) made available for public access. In addition, specialized equipment for applications such as videoconferencing or telemedicine are often available.

The International Telecommunication Union (ITU) has established partnerships with a number of organizations to introduce MCTs in several countries including Benin, Mali, Mozambique, Tanzania, Uganda, Honduras, Suriname, Bhutan, India, and Vietnam. In addition, other MCT-style telecentres are being established with IDRC support in Pakistan and the Phillipines (http://www.idrc.ca/pan/tele04029.html).

Phone shop
In Western Africa, the word '*télécentre*' is used to refer to what is also known as a 'phone shop' in many countries. These facilities generally limit their services to public telephone access and offer the local population an important opportunity to communicate with family, distant relatives, health and business services, professional colleagues, etc.

The tentative typology suggested here is intended to help clarify and contribute to understanding of the range of experiences currently being developed under the generic telecentre label. Telecentres are being introduced as a development tool that may help to bridge knowledge, social and economic gaps, frequently characterized as a widening chasm between the 'information rich' and 'information poor'. To date, there is a growing, yet still limited, body of knowledge on how to plan and implement telecentres (e.g. see Fuchs, 1998, *If You Have a Lemon, Make Lemonade),* as well as documented case studies (e.g. see Fuchs, 1998, "*Little Engines that Did*"). However, since the idea of utilizing telecentres to support development efforts represents a novel concept, we are only now beginning to consider the difficulty of evaluating their impact.

Toward an evaluation methodology

Evaluating the social impact of telecentre experiences in the communities they are intended to serve is no easy task. To date, more resources are being dedicated to setting up pilot telecentres than to understanding their uses and impact, while few efforts are specifically addressing the problem of evaluation. A notable exception is the collective and systematic effort led by the ITU's Johan Ernberg, to devise a framework for the evaluation of MCT pilot projects implemented by ITU and its partners (Ernberg, 1998b, *Towards a framework for evaluation of Multipurpose Community Telecentre Pilot projects*). This evaluation framework is in the process of being tested and enriched in collaboration with IDRC and the PACT Institute, through study of telecentres in Mali and Uganda.

ITU's approach seeks to design a common framework for the evaluation of pilot MCTs, including research questions to be answered, and the formulation of indicators and tools appropriate to the evaluation of impact. Taking the evaluation beyond the collection and analysis of data and turning it into a community empowerment tool (see http://www.idrc.ca/pan/evaluation.html#TOOLS for examples), PACT is in the process of experimenting with ways to establish a results-oriented learning system for MCT operations as an integral part of the evaluation process (PACT Institute, 1998).

IDRC's ACACIA program initiative (http://www.idrc.ca/acacia/) seeks to empower sub-Saharan African communities with the ability to apply information and communication technologies to their own social and economic development. Telecentre projects have been introduced in various African countries (some in collaboration with ITU and UNESCO, e.g. in Mali and Uganda). In addition to describing the diverse telecentre experiences being supported by ACACIA in Africa, the ACACIA Telecentre Evaluation Framework (Whyte, 1998) outlines basic guidelines to evaluate these projects. The framework is aimed at addressing fundamental questions about the role of ICTs as catalysts for community development, as well as more specific questions about the ways in which community participation or different management models are success factors in the operation of telecentres.

IDRC's experience is informed by research it has supported concerning the impact of information on development (Menou, 1993; McConnell, 1995), as well as various evaluations of projects which involve ICTs.

Learning about Telecentres in Latin America and the Caribbean

IDRC's PAN Global Networking initiative (http://www.idrc.ca/pan/) has recently initiated a research program to investigate telecentre activities in Latin America and the Caribbean (LAC). A preliminary inventory shows that some LAC countries, such as Peru and Mexico, have made some progress in establishing telecentre service. Networks of telecentres have been created (or are underway) in Peru (190 telecentres), Mexico (23 telecentres created in 1995, but only 5 operating now; others are in the planning stages), Paraguay (8 telecentres), and El Salvador (some 100 *Infocentros* to be created based on the *Conectándonos al Futuro* project).

Apart from these networks, other LAC projects include two MCT pilots supported by ITU in Suriname (four telecentres in the Brownsberg and Botopasi regions) and Honduras (delayed by Hurricane Mitch). Two other pilot projects supported by the Association for Progressive Communications (APC), IDRC, and local organizations have also been implemented in Ecuador (three telecentres located in Amazonian indigenous communities) and Colombia (three in marginalized, urban areas surrounding Bogota). Further examples include telecentre projects in Venezuela (*SCAI - Servicio de cabinas de accesso a Internet* and *FUNDACID - La Fundación Centro de Información Digital*), the Dominican Republic (*El Limón* telecentre) and Guatemala (*Centro de Mujeres Comunicadoras Indigenas*). Finally, other projects are planned in Honduras, Costa Rica, Haiti, Guatemala and Trinidad.

This brief list is far from complete. In several countries, telecentres are still at the planning stage. This does not mean that their potential is being disregarded. In many cases, local governments have adopted different strategies, focusing on specific sectors such as primary and secondary schools, universities, or the industrial sector.

An ambitious evaluation of the activities of the Peruvian Scientific Network (RCP) and the social impact of the Internet in Peru was conducted in 1996 (Diaz-Albertini, 1996), when the *Cabinas Públicas* telecentre network had not yet been created. No systematic evaluation of telecentre impact has been undertaken in LAC to date. This gap will start to be filled with the imminent creation of a Latin American Telecentre Research Network, coordinated by regional participants with the support of IDRC.

Telecentres in the Latin American communication tradition

Any initiative regarding communication research in Latin America should build on the long and rich history of community media (e.g. radio and video) found in the region. For decades, community media activists have been working toward social objectives which telecentre practitioners are now focusing on. *Given the general lack of experience in the field of telecentres, the contributions of other community media researchers and activists can enrich the nascent telecentre movement, especially in the areas of evaluation and creation of relevant local content.*

In addition, the border dividing telecentres and community media is porous. Excluding other forms of community media from a regional research effort on telecentres would overlook the fact that the Internet and related technologies are complements to existing media already active in the region. ICTs aren't a panacea for deep-rooted development problems, but may play a positive supporting role.

There is an identifiable tradition in Latin American communication which emphasizes alternative, democratic, and popular communication. Such communication often constitutes a response to the process of commodification within the public sphere (e.g. of information, education, labour, services, and space). It is used to create oppositional spaces for the development of a vital public sphere. Telecentres may prove to be suitable mechanisms to create this space.

Alternative communication comprises " diverse forms, which emerge from the need to express the particular world view of a social group, class, country, or region. The choice of form is part of a process

whose goal is participatory communication in which each receiver is a potential sender, the interaction of participants maintains life in the social fabric, there is [room] for individual and collective creativity, and, in sum, the social being recovers his or her voice" (Matta, 1986, 191).

One example of an attempt at alternative communication, which hints at the potential inherent in Matta's conceptualization, is a telecentre project located on the fringes of Mexico City in community and cultural centres, public libraries, and the office of an indigenous group. The project was designed to produce and provide access to local and national information (e.g. online maps indicating municipal boundaries and private and communal properties, historical and ethnographic information, forestry regulations, and crop prices), as well as open up communication channels (via e-mail and fax) to government officials and businesses. Of particular interest is the social context surrounding this initiative, as well as follow-up work being planned. This effort comes at a time when millions of poor Mexicans are reeling from a programme of economic liberalization amidst stirrings of political challenge to the oppressive, single party state which has ruled for decades. As explained by the project coordinator, Scott Robinson:

> *the Mexican telecenter initiative is only partially about computers and Internet connectivity. Its principal focus is on information policy -- the availability and use of public domain information to strengthen participation in public policy debates, improve municipal administration and resource management, and create new opportunities for learning (it) is developing in tandem with a broader movement toward democratic reform.* (Robinson, 1999, 1)

Initial Results - a closer look at telecentres in Latin America

In February of 1999, IDRC conducted a survey of a group of telecentre operators to collect basic data on current experiences of public access to ICTs in Latin America. The results confirmed that the telecentre movement in the region is quite new and in an experimental phase. Although the wide range of telecentres -- which includes all typology types, from cybercafes and basic telecentres to franchise models -- examined in the study and the relatively small number of respondents (23) make it difficult to draw firm conclusions from the results, certain tendencies can be observed.

Funding - Latin American telecentre pioneers received very little funding from government and international sources. Indeed, the region's first telecentres were funded by the local private sector or by communities and local NGOs.

Users - Students appear to be the main users of telecentres, as 82.6% of respondents indicated that students made use of their facilities. Some of the more recent telecentre projects target marginalized populations and are located in remote and poor areas. These generally offer basic services, often receive international funding, and face financial sustainability challenges.

Obstacles - Financial and technical difficulties appear to be the most significant problems facing telecentres. In big cities, telecentres tend to rely on revenue from the sale of computer-related services. In more isolated areas a variety of strategies pay the bills, including advertising, private sector partnerships, craft sales, payment for Web site services, and the production and sale of videos. Technical problems often result from deficiencies in telephone networks.

Networking - 30% of respondents reported no contact with other telecentres. The ten respondents who did have contact were either members of a network of telecentres under a franchise model, or funded by governments or international organizations that supported other telecentres either in the region or internationally.

While the novelty and diversity of telecentre experience in Latin America may complicate the study and

evaluation of impact, it also reveals a certain vitality. The respondents probably represent a small proportion of LAC projects involving public access to ICTs. Other initiatives -- which also need to be considered for research -- may not identify their operations as telecentres or may have a vision of the role of ICTs in the development process that goes beyond the concept of a telecentre.

A Research Agenda for Telecentres

Given the euphoria surrounding ICTs and development, it is too soon to know what the contribution of telecentres will be. Many telecentre projects are still in an embryonic stage and interest in their evaluation is preliminary. To compound the situation, we do not yet possess solid evaluation tools and comparable results to guide us. These considerations will need to be addressed in due course. Concerted effort is required in a number of areas to conduct in-depth research on:

- the demand by people for telecentre services;
- community involvement, participation and use;
- gender and cultural issues;
- training needs and materials;
- marketing and operation;
- policy, trade and regulatory issues;
- technological choices and developments;
- sustainability;
- and last but not least, the social impact of telecentres and their contribution to human development.

While the initial, emerging results from telecentre evaluation efforts may paint a picture that is perhaps not as bright as we are led to believe by the euphoric discourse surrounding ICTs, initiatives such as the example from Mexico aim to change the outlook. However, we should not be surprised if the results of future evaluations are not as positive as many people expect. In the meantime, Latin America provides a fertile testing ground to assess the potential use of ICTs in support of sustainable development.

References

Credé, A., & Mansell, R. (1998). Knowledge Societies in a Nutshell: Information Technology for Sustainable Development. Ottawa: IDRC, for the United Nations Commission on Science and Technology for Development.

Díaz-Albertini, J. (1996, April). Evaluación de Impacto Social de la Red Científica Peruana e Internet en el Perú 1991-1995. Paper presented at V Foro Permanente de Redes de América Latina y el Caribe, Lima. Available online: http://ekeko.rcp.net.pe/VFORO/memorias/esp/diaz5.htm

Ernberg, J. (1998a, 7-9 December 1998). Universal Access for Rural Development: from action to strategies. Paper presented at the Seminar on Multipurpose Community Telecentres, Budapest. Available online: http://www.itu.int/ITU-D-UniversalAccess/johan/telecentremain.htm

Ernberg, J. (1998b, November). Integrated Rural Development and Universal Access - Towards a framework for evaluation of Multipurpose Community Telecentre Pilot projects implemented by ITU and its partners. Paper presented at the Partnerships and Participation in Telecommunications for Rural Development Conference, Guelph, Ontario. Available online: http://www.itu.int/ITU-D-UniversalAccess/evaluation/eval-index.htm

Fuchs, R. (1998). If You Have a Lemon, Make Lemonade: A Guide to the Start-up of the African Multipurpose Community Telecentre Pilot Projects. Ottawa: IDRC. Available online: http://www.idrc.ca/acacia/outputs/lemonade/lemon.html

Fuchs, R. (1998). "Little Engines that Did" - Case Histories From the Global Telecentre Movement. Ottawa: IDRC. Available online: http://www.idrc.ca/acacia/engine/index.html

Gore, A. (1996). Global Information Infrastructure - GII. Delivered at the International Telecommunications Union Conference in Buenos Aires, March 21, 1994. In A. His (Ed.), Communication and Multimedia for People (pp. 69-77). Paris, France: Transversales Science/Culture.

Gómez, R. (1998). The Nostalgia of Virtual Community: a study of computer-mediated communications use in Colombian non-governmental organizations. *Information Technology & People*, 11(3), 217-234. Available online: http://www.laspau.harvard.edu/IT-eco/Gomezpaper.htm

Mansell, R., & Wehn, U. (eds) (1998). Knowledge Societies: Information technology for sustainable development. New York: Oxford University Press, for the United Nations Commission on Science and Technology for Development.

Matta, F. R. (1986). Alternative Communication: Solidarity and Development in the Face of Transnational Expansion, in *Communication and Latin American Society*. (eds) Rita Atwood and Emile McAnany. Madison, University of Wisconsin Press: 190 - 214.

McConnell, Paul, ed. (1995). *Making a Difference - Measuring the Impact of Information on Development*. (Proceedings of a workshop held in Ottawa, Canada, 10-12 July 1995). Ottawa: IDRC

Menou, Michel, ed. (1993). *Measuring the Impact of Information on Development*. Ottawa: IDRC

PACT Institute. (1998). Proposal to Collect Baseline Data for the Multipurpose Community Telecentre Pilot Project and to Establish a Participatory Results-Oriented Learning System for MCT Operations. Washington DC: The PACT Institute. Available: http://www.idrc.ca/pan/evaluation.html#TOOLS

Robinson, Scott S. (1999). TELECENTERS IN MEXICO: THE FIRST PHASE, United Nations Research Institute for Social Development (UNRISD). Available: http://www.unrisd.org/infotech/publicat/robi/toc.htm

Robinson, Scott S. (1998). TELECENTRES IN MEXICO: LEARNING THE HARD WAY. Presented at the "Partnerships and Participation in Telecommunications for Rural Development: Exploring What Works and Why" Conference at the University of Guelph, Guelph, Ontario, Canada, October 26 & 27, 1998. Available: http://www.devmedia.org/documents/robinson.htm

Stone, Martha B. and Michel Menou. (1994). The Impact of Information on Development. *Bulletin of the American Society for Information Science*, June/July 1994, 25-26.

Whyte, A. (1998). Telecentre Research Framework for ACACIA. Ottawa: IDRC. Available online: http://www.idrc.ca/acacia/04066/index.html