Enchanted by Telecentres:
A Critical look at Universal Access to Information Technologies for International Development

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

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), telecentre-type experiences are springing up like mushrooms in Africa, Latin America and Asia. This paper examines the notion of telecentres under a critical light, suggests a tentative typology to describe the diversity of experiences emerging, and calls attention to the need for assessment of their impact on the communities they are supposed to serve.

These are the preliminary results of our work in progress; the ideas expressed here are tentative, and do not necessarily reflect IDRC policy, but rather the views of the authors.

Why believe access to ICTs helps 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 that are being made about the potential of ICTs for development are not supported, and point to possible counter-productive effects of the use of ICTs (Gómez,

1998).

While it is generally agreed that there exists great 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 lack of appropriate indicators of impact, combined with the absence of the financial resources in some developing countries to collect the relevant data, make it very difficult to measure 'impact' as such" (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 use
r communities* rather than attempting to quantify the overall impact of investment in ICTs on the economy" (emphasis added) (Ibid., 15). Until adequate tools are developed to effectively assess the social impact of the application of ICTs for sustainable development, 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 of ICTs often accepts uncritically the euphoric claims that ICTs will finally help to solve persistent development problems, and ultimately bring about the new panacea of an '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 from efforts to establish "telecottages" and telecentres in Scandinavia and Canada. While these diverse initiatives 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.), we will speak of telecentres as a generic term to encompass this array of apparently disparate experiences. At the same time, we are in the process of developing a typology that will help us to better understand their differences and particularities.

While there is no single definition of telecentres 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 general 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**, ranging from basic e-mail to full Internet/World Wide Web connectivity, with additional services that may go from basic ones such as fax and word processing, to specialized information retrieval or applications such as tele-medicine or distance education. This conception thus excludes existing "phone shops" which may offer local and long distance calls, even if they occasionally offer fax services.

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 opt for different technology to provide service. IDRC's work in Latin America, Africa and Asia has allowed us to identify at least five types of telecentre experiences, or models. The typology that we are introducing here is a work in progress, and its labels and characteristics are only exploratory at this point.

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, Basic Telecentres are exploring innovative Internet access solutions such as HF or UHF radio and cellular phones. Given the nature of this activity, a key ingredient for the success of the Basic Telecentre is the training of operators and people from local communities who are the potential users.

The telecentre experiences in Colombia and Ecuador (http://www.redes-comunitarias.apc.org/), the telecentre project in the rural village of Limón, in the Dominican Republic (http://www.sas.cornell.edu/cresp/ecopartners/ruralinet.html), and the IDRC-funded Nabweru telecentre in Uganda (http://www.idrc.ca/acacia), all represent examples of what we label Basic Telecentre model.

Telecentre Franchise

A different approach to telecentre deployment is the establishment of a series of inter-connected telecentres, which are centrally coordinated but independently owned and operated. This franchise model is usually supervised by a central local organization that facilitates their creation through technical and/or financial support. 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 of telecentres, with 6 pilot projects and 68 telecentres already 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.

However, these examples 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. Donors and other international organizations have shown an interest in creating telecentres in public libraries or other public institutions, but most of the existing Civic Telecentre initiatives may not even regard themselves as telecentres. This kind of initiatives usually rely on a single dial-up connection, in the case of public libraries or community organizations, but some can make use of more sophisticated local area networks (LAN) and dedicated lines, in the case of 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.

Cybercafe

We are tempted to restrict this type of telecentre to "democratic cybercafes", in view of the rapid growth of commercial cybercafes sprouting in tourist areas and affluent neighborhoods in many capital 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. Nonetheless, the rapid growth and popularity of this kind of activity may indicate a model for other telecentre types to learn from. They 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. Even though their use remains mostly limited to tourists or international buisnessmen (sic), their potential use by local communities for development purposes remains to be explored.

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 public access to 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, 1998, *Universal Access for Rural Development*, 6). MCTs tend to establish Internet connections on leased lines or ISDN, with local area networks to hook a number of computers (range between 3 and 20) made available for public access, in addition to specialized equipment for applications such as videoconferencing or telemedicine (i.e., sonograms or other diagnostic tools)

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

The tentative typology we suggest 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 (Fuchs, 1998, *If You Have a Lemon, Make Lemonade),* as well as documented case studies (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.

Learning from experience: 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 during 1998, to devise a framework for the evaluation of MCT pilot projects implemented by ITU and its partners (Ernberg, 1998, *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, in order to study the cases 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 itself, 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).

In the African context, IDRC has launched ACACIA (http://www.idrc.ca/acacia/) which is a program initiative that 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 different African countries (some of them 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 document (Whyte, 1998) outlines basic guidelines to evaluate this array of experiences. The framework is aimed at addressing fundamental questions about the roles of information and communication technologies 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.

Learning about Telecentres in Latin America and the Caribbean

IDRC's Global Networking Initiative (http://www.idrc.ca/pan/) initiated a research program to evaluate the impact of 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, as compared to other nations in the region. Networks of telecentres have been created (or are underway) in Peru (190 telecentres), Mexico (23 telecentres created in 1995, but only 5 operating now), Paraguay (8 telecentres), El Salvador and Central America (about 100 *basic telecentres, Centros Locales de Información*, to be created shortly under the *Conectándonos al Futuro* initiative).

Apart from these networks, other projects can also be observed in the region such as the two MCT pilot projects supported by ITU in Suriname (four telecentres in the Brownsberg and Botopasi regions) and Honduras (a project which has been 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 (3 telecentres located in Amazonian indigenous communities) and Colombia (3 telecentres in marginalized, urban areas surrounding Bogota). Further examples include telecentres found in the Dominican Republic (*El Limón* telecentre) and Guatemala (*Centro de Mujeres Comunicadoras Indigenas*). Finally, other telecentre projects are planned in Honduras, Costa Rica, Haiti, Guatemala and Trinidad; the list is far from complete.

In several countries of the region, 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 like 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), but the *Cabinas Públicas* telecentre franchise network did not even exist at the time. To our knowledge, no systematic avaluation effort of the impact of telecentres has been initiated in the Latin American region to date; this gap will start to be filled with the creation of a Latin American Telecentre Research Network, coordinated by *Conectándonos al Futuro* in El Salvador with the support of IDRC.

A Research Agenda for Telecentre Impact

Beyond the euphoria about ICTs and development, it is too soon to know for sure what the contribution of telecentres to development will be. Many telecentre projects are still in an embryonic stage and interest in their evaluation is preliminary. To compound the situation, we still do not possess solid evaluation tools and comparable results to guide us. These considerations will need 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 actual contribution to human development..

The initial, emerging results from telecentre evaluation efforts paint a picture that is perhaps not as bright as we are led to believe by the euphoric discourse surrounding ICTs for development. We should not be surprised if the results of evaluations to come are not as positive as some many of us expect.

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. (1998, December). *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. (1998, October). *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. Delivery at the International Telecommunications Union Conference in Buenos Aires, March 21, 1994. In A. His (Ed.), *Communication and m 9ultimedia 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. (1998). *Knowledge Societies: Information technology for sustainable development.* New York: Oxford University Press, for the United Nations Commission on Science and Technology for Development.

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.

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