



Telecenter Sustainability - Myths and Opportunities*

Francisco J. Proenza

This chapter forms part of the internet publication

**“Bridging the rural knowledge gap: Information
systems for improved livelihoods”**

Dixon & Wattenbach (Eds.) (forthcoming),
which is based on a workshop held at
FAO Headquarters in Rome,
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Introduction

Telecenters are “shared premises where the public can access information and communication technologies” (Colle and Roman 1999:1). A center offering only telephone or computer services is valid under this definition, but here we focus on those providing access to the Internet.

The Internet opens up opportunities for networking and access to information and services previously unavailable to low income people on account of distance and cost. Voice over the Internet Protocol (VoIP) is gaining importance - even if there are still institutional obstacles and latency limitations (Minges and Kelly 2001). The Net may also be used in combination with traditional technologies, like radio, to broadcast information over a wide area at low cost. The dominance of the Internet through computers as the standard telecenter equipment-service configuration may change as technologies converge (e.g. as 3rd generation cellular telephony becomes ubiquitous), but access to the Net is the standard feature of today’s telecenter. Countless other services are often offered, but the most common service and source of revenue is the sale of Internet-computer time.

A successful telecenter experience requires familiarity with computers. This is not an insurmountable barrier: children and young people adapt to the technology more rapidly than mature adults. This is important both from a market and a development perspective. Countries with young populations have potentially large markets for telecenters. Furthermore, the use of telecenters to introduce the technology to young adults and children for educational and productive purposes makes social and economic sense, because they have a longer horizon in which to make productive use of these skills.¹

The rules governing telecenter economics are not complex but they are unforgiving. If a telecenter revenue inflow does not cover expenses and generate a surplus to replace equipment - i.e. if it cannot achieve *full financial viability*, inevitable equipment

breakdowns and obsolescence will eventually force the telecenter to shut down. If the telecenter does not generate sufficient income to cover operation and maintenance costs - *operational viability* - the telecenter may have to shut down even sooner.

Donors sometimes fill a part or all of the financial gap. It is common for developed countries - e.g. U.S., Canada, Japan, Finland, Australia - to make telecenter services available for free in libraries, albeit usually with restrictions on the amount of time allocated to individual users. The Government of Australia, a country with a per capita income of US\$ 20,500 (in year 2000), gives recurrent support to most of an estimated 150 telecenters. Less developed countries that try to follow a highly subsidized approach to telecenter development will find it an unsustainable drain on resources. They are eventually forced to stop funding or to limit the extent and reach of their telecenter programs.

We are interested in telecenters that meet our definitional criteria and are sustainable; either operationally or fully viable. We would also like for telecenters to have a development impact. They should: (1) improve the welfare and living conditions of large numbers of low-income users (scope of outreach), and (2) benefit the very poor segments of the population (depth of outreach). The development impact of a telecenter is thus a very important consideration, even if it is a dimension that is distinct from sustainability.

Sustainability is itself many-sided. *Structural conditions* – e.g. telecommunications infrastructure – are critical determinants of sustainability. At the individual telecenter level, its *governance structure* or constitutional rules help shape how decisions are made and resources procured and used. A country’s *policy and regulatory framework* may influence telecenter development in many ways, not all of them salutary.

To give a notion of order of magnitude, summary telecenter cost data from Peru, Hungary and Jamaica are presented in Table 1.²

¹ In part reflecting these considerations, the presence of school-age children (aged 6 to 17) in US households increased the % of computers in the household (August 2000) from 45% to 67% and the % of Internet access from 37% to 53% (US Census Bureau, 2000:3)

² Our focus on telecenters that can achieve sustainability in the service of low income communities rules out the more expensive research initiatives that are generally not expected to generate benefits in excess of costs

Table 1: Telecenter costs - Sample estimates for Perú, Hungary and Jamaica

		Peru	Hungary	Jamaica
Number of computers		14	4-5	5
Connectivity		DSL - 64 Kbps	Dial-up	Dial-up
Location		Urban	small town/ good telecom	small town/ good telecom
Management		Commercial	NGO	NGO
Investment Cost ^(a)	- US\$	17,200	7,800 - 10,100	8,500
Operating Cost	- US\$	17,500	12,400 - 17,000	20,500

^(a) A number of items are not considered; e.g. feasibility study, building construction or furnishings.

Sources:

- Estimates for Hungary are based on survey data presented in *Telecottages in Hungary*, unpublished 2001 manuscript paper produced by Hungarian Telecottage Association.
- Private project data for Perú was made available by Carlos Linares (informatics advisor at University of Arequipa), collected in early 2001.
- Project data for Jamaica is courtesy of Jamaica's Sustainable Development Network and Computer Society.

Myths

A Cybercafé is not a telecenter

It is an unfortunate but common mistake to disregard cybercafés, because they are “not development oriented”. These small businesses have been expanding very rapidly worldwide, are sustainable as a system, and there is much to learn from their experience.

When we discard cybercafés we are ignoring the most replicable and sustainable governance structure known - i.e. the privately owned business, and narrowing the range of possibilities.³ Telecenters operated by institutions using perhaps the second

most commonly used governance structure, i.e. not for profit non-governmental organizations (NGOs), by tradition rely on donor funding, at least to cover investment costs. No wonder we have a hard time finding telecenter models that are sustainable!

Cybercafés often provide as many services as other types of telecenters. They train their clients (for example, in basic computer skills and office applications) - either in response to local demand or to stimulate demand for their services. On the other hand, many NGO run telecenters are in practice “cybercafés” in disguise; they do not offer any more valued services than a typical cybercafé, and any excess revenues (from donor funding or fees) are distributed to operators as staff salaries.

³ The inclination to set cybercafés apart from telecenters is reminiscent of the discussions in the microfinance literature a few years back. The “minimalists” emphasized the need to focus on microfinance and to develop sound financial institutions that operate like any business that must be sustainable; while others argued in favor of linking credit to other services, especially training. The major institutions that successfully provide microcredit sustainability today – e.g. Banco Sol and PRODEM in Bolivia, Financiera Calpia in El Salvador, etc. – have developed specialized banking techniques that reach large numbers of the poor following the minimalist approach. Microentrepreneurs need other services, beyond microcredit or deposit services. But being able to access to reliable services from a sound and dependable specialized financial institution is important.

By ignoring cybercafés we also miss an opportunity to learn important lessons about policy and managerial approaches that contribute to sustainability. Why, for example, have cybercafés spread rapidly and extensively throughout Lima, Peru, where they are known as *cabinas públicas*, whereas the same does not happen in other countries - e.g. Brasil and Jamaica? Mainly because Lima offers a combination of important features that facilitated telecenter development; that are not always present elsewhere, and that can help guide *policy design* in other countries. The features include:

- ◆ **enormous and densely concentrated demand**, in the form of young low-income people with limited access to affordable telecommunications facilities;

- ◆ large number of well trained engineers with limited employment opportunities enabled the development of *low-cost repair and supply of parts industry* based on PC clones and pirated or low-cost software;

- ◆ imminent threat and eventually real competition, resulting from a privatized telecommunications sector with limited exclusivity period that ended in 2000, resulting in a rapid fall in the cost of connectivity;

- ◆ a major **awareness campaign** launched by an NGO, the Red Científica Peruana, during the early days of Internet development, helping many young entrepreneurs learn of the potential benefits of ICTs.

At the *operator-level*, the behavior of cybercafés is also instructive. Donor-driven telecenters have a weak motivation to be economical. They may invest and spend more than they can afford on superfluous services; e.g. fancy buildings, more than one attendant per shift, highly educated costly operators, and products that are not affordable or desired by customers. In contrast, a well-run cybercafe exhibits the following features:

- ◆ The **local market demand** determines the number and quality of services provided. The service provided is usually the basic minimum, mainly computer-Internet connect time. Refreshments, magazines, diskettes and related supplies, and Voice

over IP are other common services. Although there are some departures from the norm⁴, supplementary services seldom account for more than 20% of total revenue.

- ◆ The **training given to telecenter attendants** is very basic. Whomever sets up the business needs to know about computers and how to set up a LAN, or needs at some point to hire someone who does. But everyday attendants are few in number (e.g. one person per shift for up to 30 computers) and are generally low-salary staff with a suitable but limited level of education.

- ◆ **Software provided is minimal**, depending on client demand for applications. Either pirated or free software is used, or software licenses are purchased at low-cost, for example through online auction sites.

- ◆ Where **competition** among telecenter operators is high, as in Lima, prices fall to very low levels - as little as US\$.50 per hour of service. Interesting things start to happen: the operators who survive are those who find a way (through location, quality or variety of services) to fill in their cybercafés all of the time (65% or higher occupancy rate), and are in constant search for ways to keep expenses low by relying on special situations like, for example, running their businesses from their own home, or sharing overheads between different business activities (e.g. by combining their cybercafés with other enterprises such as, for instance, selling computer parts and supplies).

Cybercafés sometimes have a bad name because they are associated with upscale businesses serving tourists. While these types of telecenter meet a market need, their development impact is limited. In practice, however, where cybercafés are ubiquitous and competition is intense, small entrepreneurs set up shop in areas serving low-income communities. At US\$ 0.50/hour in Lima, 20 hours of Internet service every month can be purchased for US\$10 or US\$120/year. This is hardly an insurmountable obstacle in a country with an average per capita income of about US\$2,100. (Per capita income figures are from World Bank 2001.)

⁴ Guyana, for example, has a population of about 800,000 and as many Guyanese living abroad as in the homeland. A private monopoly operator dominates the telecommunications sector and international calls are expensive. As a result, the key service provided by Georgetown's cybercafés is communications with relatives and friends living abroad. VoIP is commonplace, even though its legality is challenged by the telecom operator.

Success is assured through community ownership

The notion of “community ownership” is vague, yet it is frequently the alleged driving force behind telecenter experiments. Well-meaning donors that provide initial funding but let their projects start running on loose terms regarding ownership and control over resources are courting disappointment and failure.

Like any organization, a telecenter must have working rules to ensure sustained satisfactory operation. Its **governance structure** needs to be clear, must stimulate the commitment of the operator working at the local level, and must be compatible with the objectives of the center and its sustainability. Someone needs to be responsible and accountable for repairs in the event of a breakdown, hiring and firing staff and paying their salaries or for recruiting and supervising volunteers, opening the center on a regular schedule, helping customers and making sure that their needs and aspirations are met by the center, and protecting the equipment and premises.

The reason commercial telecenters are so resilient, as a system, is that if a telecenter owner is not committed he will surely fail while others take over to serve his market. In contrast, telecenters “owned” by municipalities or otherwise heavily influenced by politicians tend to give headaches because a mayor’s foremost concern is to keep in good standing with the electorate. Financial sustainability is of secondary consideration. This, of course, less of a consideration in high income countries where the political significance of telecenters is not so large.

Grass roots organizations and NGOs are excellent vehicles for reaching the target group. Because they rely on external fund raising, some are able to offer the kinds of specialized services - e.g., geared to the disabled or to women - that disadvantaged people need most from a telecenter, but which would hardly be provided by firms on a for profit basis. Furthermore, the social interaction that occurs through joint action for a common purpose, offers the potential for contributing significant to social and economic development, over and above the direct benefits associated with using the new technologies. These spillover or external benefits will become increasingly important as communities of disenfranchised groups facing common problems expand and develop; i.e. as they learn to trust each other and work together through a combination of

face to face encounters and online interaction.

Not-for-profit organizations, however, tend to be most effective in short-lived single-cause action; less so when concerted prolonged effort is required. Because the managerial and financial requirements of telecenters are not complex, these shortcomings may be overcome through training and institutional upgrading primarily geared at improving governance, enhancing staff capacity to keep records and manage resources, and making sustainability a central objective of telecenter operations from the outset.

Set up the right policy framework and the market will provide

A stable macroeconomic environment, competition in the telecommunications sector, and a suitable regulatory environment, is necessary to make ICTs more accessible to the public at large, but other factors may inhibit commercial telecenter development.

A key issue is whether there is a sufficiently large market to stimulate entrepreneurship in the cybercafé business. Telecenter markets, however, are highly localized and sensitive to distance. In Peru, customers use 2.3 cabins on average, and 44% of the time they use cabins located within 1 km from their home, 70% within 5 km (Proenza, Bastidas-Buch and Montero 2001:23). If a city has no areas with a large concentration of young low-income people having no alternative low-cost means of connecting to the Net, self-sustaining commercial telecenters will not arise.

Establishing telecenters in *rural areas* can be a particularly daunting challenge, particularly where the landscape is irregular and the population is scattered. Both of these features make the cost of expanding the telecommunications infrastructure expensive. The low density of population that is typical of rural Africa and Latin America defies the basic premise of sharing equipment within a single facility. It is much easier to keep a 10 - 30 computer telecenter fully occupied in a large city than in a sparsely populated small town where clients are poor and have limited means of transportation.

Even where commercial telecenters are located in urban marginal neighborhoods they are frequented primarily by well-educated young people. To reach

the large mass of low-income people, most of whom have limited education, specific measures – promotion campaigns, start-up investment capital, training programs, and demand support during the initial stages while users become familiar with the technology - will need to be instituted. These measures are costly. They yield high social but low private returns. Private enterprise will not bear these costs on its own volition.

Telecenters that help build up social capital in a community create more wealth and value than the market will recognize. Communities of people facing common problems and pursuing action through joint efforts generate externalities that cannot be reproduced or captured by the individual or the firm (Collier 1998; Knack and Keefer 1997). Pure for profit ventures will not engage in these activities. Yet, in order to be effective, the needs of indigenous people, of women and other minorities need to be addressed *directly* through explicit concerted action. The risk, especially in highly fragmented societies, is that community empowerment through ICTs will at times involve struggles over use and control of resources. A major challenge facing developing country governments is to recognize and provide the leadership and funding necessary to sponsor community networks that help minorities and disenfranchised groups use ICTs to improve their condition and, in the process, build up overall trust in society and forge new democratic all-inclusive institutions.

Franchising is a proven and effective strategy

Commercial telecenter franchises are conceptually appealing, as a way to profit from scale, and to serve large numbers of people through a replicable model. In practice, implementing telecenter franchises has been fraught with difficulties.

Franchises have been common in the telephone industry, set up by traditional monopoly operators in many countries, but also by innovative cellular operators like Grameen Telecom (<http://www.citechco.net/grameen/telecom/>). More recently, some countries have established minimum subsidy schemes to encourage the development of telecommunications and telecenter infrastructure in small towns [Colombia]. These subsidized schemes stimulate telecenter franchising: the infrastructure development is undertaken by a large firm, but the local entrepreneurs.

As yet, however, there are no known successful commercial franchising (Internet service) telecenter experiences *in a competitive (e.g. urban) unsubsidized setting serving a low-income population*. For several years the Red Científica Peruana advertised a telecenter franchise project in its web pages. In practice, it never managed to put together a marketable plan of services or assistance of value to prospective franchisees beyond what an independent operator could purchase in the open market.

Beginning in 1999, S. Kumars Ltd. started promoting in India what a promising service package. It seeks to connect small towns and villages through a network of 1-computer Internet kiosks using VSAT technology. What sets the S. Kumars model apart from other franchising schemes, are its *provision of infrastructure and network economies associated with a large network of franchisees and a comprehensive service package* (connectivity, equipment, credit, cash based e-commerce). Plans provide for the establishment of a total of 50,000 kiosks spread throughout the country. In practice, however, the company has experienced serious difficulties while implementing its model. Out of a total 53,000 franchise applicants in the first quarter of 2000, only 1,400 franchisees paid the required investment and, as of 14 July, these were still waiting for their kiosks to be set up [Chatterjee 2001].

Some franchising efforts have tended to focus on the high end of the market. The investment cost of a TeltecGlobal telecenter, for instance, ranges from US\$ 350,000 to 750,000. These are intended to be a combination of “Super Kinkos, Internet café, virtual classroom, internet service provider and small (electrical appliance and equipment) showroom under one roof”.

A number of Internet connected kiosks are also being launched, for example, in Mexico, in the U.K., in Jamaica. These are still experimental risky ventures, geared primarily for businessperson on the run.

Companies, however, are beginning to focus on a broad expansion of the service. The most extensive urban franchising telecenter scheme appears to be emerging in Argentina, where computer terminals providing Internet service have been added in an estimated 300 (Telefónica) and 450 (Telecom) Locutorios that previously only offered telephone service [Davidziuk 2001]. The provision of Internet service through the McDonald’s chain is being tested in Israel (Heller) and Brazil (DiarioTI) and could significantly increase access to the technology.

Developing profitable franchising schemes has proven difficult and their impact on low-income people is an open question. Yet time and again, public or quasi-public institutions take up franchising as a suitable way to provide easy access to the masses expeditiously. In fact, these initiatives end up trying to control from their “headquarters” office very critical aspects of the telecenter operations (e.g. prices) that can only sensibly be provided by a local operator responsive to a community’s needs. The “central office”, hires overqualified expensive staff that presume they know better than the people on the locality when in fact just the opposite is true. There are tremendous economies of “decentralization” in telecenter operations, that far outweigh any advantage from say “bulk purchase” of equipment and software. Hence, the importance of letting the local entrepreneur run the show; to give him the power and flexibility to operate the telecenter according to the needs of his clientele, and to address the problems he faces with the resources he has within reach.

Opportunities

Commercial telecenters are fully sustainable in many urban areas where a number of specific conditions apply. In sparsely populated rural areas, sustainability is difficult to achieve because infrastructure may be lacking and because local demand is scattered and has limited purchasing power. Even in urban areas commercial telecenters cannot afford to provide public service goods, like informal adult or remedial education, to serve the special needs of low income people and disenfranchised groups. For telecenters to reach and procure tangible benefits for the poor, either in rural or urban settings, *state subsidies will be required for the start-up phase, and subsequent governmental funding of public services will be needed.*

State Support Systems

For the investment and start-up phases subsidy mechanisms should be transparent, prudent and conducive to sustainability. Two systems meeting those criteria have proven successful in the Americas:

Telecommunications Development Funds. This system has been very effective in encouraging private investment in rural telephony in low profit areas and has recently begun to be applied to telecenter development in Colombia, Chile and Perú. These

programs grant a concession and a “minimum subsidy” to a centralized operator or consortium that agrees to establish a given number of telecenters in specific localities and following predetermined service specifications (e.g. bandwidth, content development and training). The contract is awarded to the firm or consortium that proposes to fulfill the service requirements for the least subsidy amount. The competition is open to any kind of “business model”, but the enterprises that have won these awards typically choose a commercial franchising scheme. Actual subsidies granted have varied, for example from an average of US\$ 29,000/center, under Phase III of Colombia’s COMPARTEL program, establishing a total of 270 telecenters, each with 3, 6 or 12 computers; to US\$ 9,000/center under the same program’s Phase I, to establish 670 1-computer telecenters.

The size of the subsidy award is a function not only of the size of the center, but also of the terrain and difficulty in providing connectivity, as well as market size. The larger telecenters are intended for relatively large towns with a few thousand people, while the 1-computer centers are for small towns with fewer than 250 inhabitants.

Community Investment Funds. Between 1995 and 2001 Canada’s Community Access Program (CAP) helped establish more than 8,000 telecenters using a Community Investment Fund approach. The CAP mobilizes civil society and helps further telecenter development by awarding grants to individual telecenter initiatives led by not for profit institutions that agree to provide a predetermined level of service (hours of operation, access to the Internet, access by disabled persons, etc.), and to “match” grant funding with local resources, mostly in-kind. As the CAP matured, it established procedures conducive to telecenter sustainability and to the transparency of the grant award process. These include:

- ◆ The Proposal Review Committee is made up of a group of notables that vet proposals independently, albeit with technical backstopping from government;
- ◆ Proposals must be put forth by a *consortium* as opposed to a single institutions to avoid competing proposals from the same community for different projects, and to increase the size of the clientele and the intensity of use of the CAP (and thus potential revenue and sustainability), as each institution encourages its own constituents to make use of the facilities;

◆ Some participating provinces also provide technical assistance to communities preparing CAP proposals. A technical unit gives assistance during project formulation and filters bad or incomplete proposals before they are presented for consideration and funding;

◆ Beginning in 2000 CAP started promoting the presentation of proposals by groups of communities in an effort to expedite the formulation and approval process and, at the same time, foster networking economies as well as scale economies in infrastructure development;

◆ The Selection Committee reviews proposals on a periodic basis. Any proposal that is discarded in any one selection round could be revised to rectify any shortcomings and resubmitted during a subsequent selection round. This enabled the Committee to say “no”, without that decision being definitive; thus reducing the pressure bearing on the Committees to approve bad proposals.

Both systems grant subsidies on a transparent competitive basis. Both have some elements of franchising (e.g. bulk purchase of equipment, provision of technical assistance by a centralized unit), but with notable differences These include:

◆ The State supports the system during an initial start up phase and any suprastructure is temporary. In the case of CAP, support to individual telecenters is for half the cost of establishment, and to cover part of operations for an initial period not exceeding 18 months. Technical assistance is solely during the project preparation stage. COMPARTEL grants are awarded to ensure service for a 5-year period. The subsidy is applied upon establishment of each center. There is no commitment for continued support afterwards.

◆ Both systems encourage local initiative and management. The local telecenter manager controls his resources – e.g. he manages revenues collected and uses them to meet expenses in a timely fashion as the need arises. He is in the best position to identify the needs of his clients and to respond to those needs with new or improved services.

Because scale and network economies may be achieved by providing for numerous access points, the Telecommunications Development Fund approach is most applicable in rural areas lacking telecommunications infrastructure. Community Investment Funds are better at building social capital and addressing the needs of low-income people. They are quite suitable for countries with well-developed infrastructure and robust civil society organizations. A summary comparison of the two approaches is presented in Table 2.

Beyond financial support, to achieve sustainability telecenter programs would do well in offering technical assistance during the investment and start up phases to: (1) strengthen individual telecenter constitution and management structure to ensure accountability, commitment and sensitivity to local needs; (2) cultivate and help develop the market for ICT services amongst low-income people; (3) keep operating costs to a minimum (don’t over-invest, keep staff costs in check, don’t introduce services you cannot afford to provide); (4) promote partnerships that help cover a part of the costs or bring in additional revenue; and (5) help develop networks that share experiences and best practices between telecenters, both online and through periodic face to face encounters.

Table 2: Comparison of telecom development and community investment funds

Approach	Type of institutional arrangement encouraged	Suitability to profit from scale economies associated with infrastructure dev.
Telecom Development Funds	Commercial franchising is typical: large (usually telecom) private firm in partnership with small businesses located in communities served.	Quite suitable
Community Investment Funds	Lead local NGO in concert with other institutions (e.g. small businesses and Gov.)	Feasible in principle, but difficult in practice –requires coordinated group requests

Services

Computer-Internet access – mostly for e-mail, browsing and chatting - is a key generator of revenue practically everywhere. Training in computer literacy, word processing and spreadsheet is a distant second, but nevertheless of prime importance in particular localities.

Formal content is widely regarded to be necessary to engage the interest of local communities, but maintaining content updated remains a major challenge. Portals that help build community networks have been the most commercially successful, and their potential importance in building up social capital across the Net is immense. Because they rely on the interested party's initiative, they should also prove easier to maintain.

The provision of multiple services through a single site to attract a large rural clientele and enhance financial viability has been a cornerstone of ITU's Multipurpose Community Telecenters (Ernberg 1998) The financial viability has proven elusive in practice. ITU's present telecenter showcases in Honduras are more promising than earlier experiments. The multipurpose orientation is retained, but the focus is services that pay their own way, i.e. that bring in more revenues than it costs to produce them.

Low cost rural connectivity at the service of local limited markets

Wireless technology in general and VSATs in particular have significantly contributed to expanding connectivity to rural areas. Most of the least-subsidy competitive tenders to expand telecommunications services to rural areas in Latin America (Chile, Colombia, Perú) have been awarded to firms using VSAT technology.

ITU's telecenters in Honduras are using wireless technology to directly address the issue of the disperse population typical of many rural contexts. The two headquarters centers (one in Valle de Angeles and the other in Santa Lucia) retransmit Internet signals serving as ISP for neighboring

residents, and data at a lower rate (using spread spectrum and radio packets) to low-cost and low-maintenance 1-computer mini-centers located in neighboring villages. The ISP service in particular has become a key revenue source that helps cover costs for the mother center, while keeping the cost of servicing satellite mini-centers at affordable levels.

These experiments and similar initiatives in Brazil, India and elsewhere promise to enhance the prospects of rural telecenter viability and deserve greater attention by government and marketing support by the private sector.

Alliances

Telecenter partnerships are commonplace. The best-documented experience is that of Hungary's (US\$ 4,740/capita) telecottages. Each telecottage in Hungary is formally owned by a well-structured not-for-profit organization. The national government funds telecottage establishment, but managing NGOs are required to cover operating costs. NGOs have contracts, for example, with the employment agency to do job counseling, or with local or national governments to provide public services such as providing information and forms, helping applicants submit project proposals, etc.⁵

A total of 220 (as of mid-2001) telecottages located in small rural communities throughout the country offer an impressive array of services .

The dominant source of telecottage service revenue is derived from access to the Internet and to computers (listed under A in Table 3). These generate about 50% of all revenues collected; the remaining 50% are produced by a broad array of services for which telecottages receive direct compensation. Nevertheless, service revenues cover only about 30% of operating expenses. Obtaining the rest is a continuous challenge, up to now overcome through competitive grants from private sources but mostly from public funding (60%),

Given the public character of many of the services lacking in rural communities and that, in principle, telecenters may provide these services effectively and at low-cost, partnerships with public and quasi-public

⁵ Information obtained through personal correspondence with Peter Palvolgyi of Telecottage Program Office of the Hungarian Telecottage Association, and Charles Jokay.

Table 3: Services provided by more than 50% of Hungarian Telecottages

Hungarian Telecottages - Services provided by more than 50% of Telecottages surveyed (Survey covered 78 telecottages and was undertaken in 2001)	% of telecottages providing the service
A. Computer-Internet Services (paid for by users on an hourly basis)	
Computer games	99%
Completion of computer work	97%
Internet access	96%
E mail for public use	95%
Multimedia equipment for use by the public	83%
B. Other services for which telecottages receive direct compensation	
Office services (faxing, photocopying, computer usage)	99%
Local advertisement, information centers	97%
Technical advice on computers	91%
Seek - Offer Information Service	90%
Editing of local newspaper	88%
Who does what in the village? - "Value map" (1)	87%
Asistance on administrative affairs, admin. Transactions (1)	87%
Teaching, training	86%
Agricultural information and advisory services (mostly to gov. agencies)	83%
Employment services - aid to job seekers	83%
Prospectus, information leaflets - production and dissemination	81%
Edition of local web page (2)	79%
Almanacs, catalogues and lexicons (including CDs) - production, library of materials	78%
Local list of programs and other publications - prod. & dissemination.	78%
Counseling - at least in one professional field (2)	78%
Mediation of commercial and business services (e.g. real estate, commodity)	77%
Organization and procurement of funding of distance learning programs	77%
Organization, procurement of funding and provision of accomodations to enable tele-work	72%
Local sale (books, postcards, gifts, etc.)	68%
Production and upkeep of database with information of use to the community (3)	68%
Tourist Information Office (4)	68%
Distance administration and distance support (3)	67%
Translation services	65%
Management of Regional Development Programs (3)	64%
Café - coffee, tea (3)	62%
Tutoring	65%
CD - rental	58%
Partnership Centre for Small Region Development (3)	58%
Tele-village centre (3)	56%
Publication of local telephone directory	53%
C. Services provided by telecottages for free	
Information for use by the public	96%
Center for civil society organizations	95%
Organization of community programs and events	92%
Periodicals reading room	86%
Constant place for exhibitions by community organizations	69%
D. Services provided by government agencies using telecottages (5)	
Information center for local affairs	82%
Organization and provision of social services	69%
(1) This is a service often offered by telecottages to third parties for a fee, but sometimes also by government agencies using telecottage facilities (without directly compensating telecottage).	
(2) About half the time telecottages get compensated for this service; and about half the time the service is provided free of charge.	
(3) These are services given by telecottage to third parties (e.g. government agencies, NGOs, businesses or individuals) and gets direct compensation from the third party. The service to the final users is provided by the third party using telecottage facilities.	
(4) Perhaps 70% of the time telecottage receives direct compensation for the service. The remaining 30% is provided by government agencies directly, using telecottage premises but paying no direct compensation.	
(5) No direct fee is charged by telecottage, but there is usually a quid pro quo arrangement with government agency.	

institutions (national but mostly local) is an appropriate means of improving living conditions in rural areas and enhancing telecenter sustainability. To ensure successful partnerships, two things must be preserved: (1) the independence of the telecenter from political interference; and (2) the ability to make decisions at the local level.

Three kinds of institutions present in many rural communities appear to be most promising for partnerships with telecenter initiatives: schools, post offices and libraries.

School computer laboratories in the service of the public at large are an ideal location for a telecenter. They arise in many countries – e.g. Canada, Chile, Colombia, Jamaica, US, South Africa, Zimbabwe – in response to community demand or as a result of an individual’s initiative. The greatest challenge has been convincing administrators and teachers of the value of a telecenter, and providing for the institutional arrangements to make school facilities available, staff the center and protect the equipment. Public universities in Peru have perhaps been the most successful, mainly because internal regulations allow computer labs to keep the proceeds of any revenues collected from the provision of services and use those proceeds to cover operating costs.

Post offices are facing a declining demand for traditional services and their use to provide Internet connectivity is being promoted in many countries. In order to succeed financially, achieve depth and breath of outreach, and provide community-oriented public services and training, they will need to provide a greater variety of services, perhaps by partnering with other local organizations.

Libraries have been quite successful as telecenters in many countries.⁶ In Jamaica, every one of the country’s 14 parish libraries has a small but lively computer lab with 9-10 computers each.

Conclusion

The establishment of telecenters led by local, well managed (strengthened, if necessary) not-for-profit organizations, in partnership with a variety of public, quasi-public agencies, businesses and other civil society organizations, appear to be the most promising way forward, both from a development perspective and to achieve long term sustainability. These partnerships cannot be forced upon by decree. They may be encouraged and nurtured, but will need to be voluntarily formed *at the local level by the local partners.*

Table 4: Hungarian Telecottages – Sources of Funds as % of Total Operating Expenditures

Revenue-generating services		30%
A. Computer-Internet services	15%	
B. Other services	15%	
Competitive grants from private sources		10%
Public Funding		60%
Competitive grants – public sources	20%	
Local gov. support (not directly linked to services)	25%	
National government support (no direct link to services)	15%	

These percentages are not based on statistics, but on estimates from experience courtesy of Mátyás Gáspár, President of the Hungarian Telecottage Association.

⁶ “Had these telecenters been established in public libraries...every one of them would still be operating today, thereby facilitating ongoing access to technology for remote, rural and regional residents” — Robert Knight, Director of the Riverina Regional Library in NSW Australia, cited in Bundy 2000:5.

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