

CASE HISTORIES FROM THE GLOBAL TELECENTRE MOVEMENT

IDRC Study/Acacia Initiative Prepared for IDRC by Richard P. Fuchs Futureworks, Inc. June 1998

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"If you are one step ahead of the crowd, you are a leader. Two steps ahead and you're a pioneer. But if you're three steps ahead of the crowd, chances are you're a martyr"

Fiona Potter

Dedication

This manuscript is dedicated to the employees of the former Crown Corporation Enterprise Network Inc.. They taught me about excellence, perseverance, quality and teamwork.

R.P. Fuchs

"LITTLE ENGINES THAT DID"

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Forward

Case Study Contributors

Forward

The original purpose of this document was to distill the experiences of telecentre pioneers in the developed and developing world in order to provide those involved with IDRC's ACACIA Initiative with support for the important work which they are undertaking in Africa. Given that many of those associated with ACACIA have participated in our Telecentre Discussion Forum, I trust that we have already moved part way towards that objective. With the completion of this report, I hope that this objective is now fulfilled.

This report was completed entirely with the use of distance technologies, which is to say with the use of the internet and email. While I have had the pleasure of meeting all of our case study contributors at one time or another over the past several years, we never actually had a chance to get together and discuss how we would approach this report. In most cases all of our communications were undertaken using email. I never actually spoke with the case study contributors about their contributions to this document.

Each case study contributor was provided with Terms of Reference for what we were trying to achieve and then proceeded to develop a series of drafts for their case study. The first round of drafts were discussed with Shady Kanfi at the International Development Research Centre in Ottawa and were then followed by a set of suggestions from me for how more information could be provided or other issues addressed.

To the extent possible, we recruited case study contributors who were actually personally associated with the development, management and growth of telecentres on the four (4) continents covered in this manuscript. All of our contributors are telecentre pioneers, either as practitioners or historians, and have tremendous wisdom to share.

Because of the wisdom they possess, we asked our case study contributors to participate in our *Rolling* Telecentre Interviews. The questions for this were based largely on the original Terms of Reference for the report. Lastly, we involved our case study contributors in a listserv Discussion Forum with more than 50 other active participants in the ACACIA initiative in Sub-Saharan Africa and other related community, NGO and international development organizations. In this way we hoped to extract as much of their knowledge and wisdom as possible for those associated with the ACACIA project as well as for others who are involved with new telecentre initiatives in the developing world.

After a little more than eight months and 481 emails we now have this document to offer our readers. As

with its origin, this report will be made available on the Internet, available at the ACACIA and the Futureworks websites, with links to the electronic archives of the Discussion Forum on the IDRC server.

I would like to thank the contributors to this volume, Paddy Moindrot, Sheila Downer, Ian Reeve, Nebo Legoabe, Lennarth Bernhardson and Mactar Seck for their thoughtful contributions as well as their flexibility and patience in helping to see this project through. Their commitment is reflected not only in their everyday work in the communities they serve but also in their willingness to collaborate and cooperate in helping to complete a document like this. I am truly indebted to them for their assistance.

I also owe a debt of gratitude to Shady Kanfi and Gilles Cliche at IDRC. Shady Kanfi was the originator of the idea for this report and he received support for it from his colleague, Gilles Cliche. Both of these gentlemen contributed considerably in helping to ensure that the report was completed in as comprehensive a manner as possible. I appreciate the confidence they placed in me to plan, organize, moderate and complete this volume.

We had all wanted to include more telecentre case studies, especially from Latin America and Asia, within this report. Both because telecentres there are still in their early days, and due to time constraints on the part of those involved with them, this proved to be impossible. Perhaps this report will animate more interest to document and share what they are learning about the Information Society and development.

Last, but not least, I'd like to express my appreciation to Kristi McBride for working so collaboratively to help organize and compile sections of this report, along with being an attentive sounding board and advisor for how we might approach and complete the document. Her enthusiasm, patience and collaborative style are an important asset to the work that we do.

Richard Fuchs Torbay, Newfoundland, Canada June 23, 1998

The Case Study Contributors

Our contributors to the Telecentre Case Studies represent both veteran and more recent telecentre practitioners and researchers. They include:

Sheila Downer- Sheila managed the Southern Labrador Telecentre in Forteau, Labrador for 5 years. She traveled the coast of Labrador on her telecentre snowmobile and introduced the digital world to some of the most remote (and cold in the winter) places in North America. She is now the Information Technology Development Officer for Labrador, Canada.

Ian Reeve -Ian completed the first ever global review of telecentres back in 1991, a work which is still an interesting and valuable resource. He is a Senior Researcher with the Rural Development Centre at the University of New England in New South Wales, Australia.

Paddy Moindrot -Paddy started the first telecottage in Wales and has been the Sysop and Lysop for Compuserve's Telework Europa for many years. He is a pioneer in the European Tele-Cottage movement and founded Telecottages Wales.

Mactar Seck- Mactar is the Director of Telesevices with Sonatel, Senegal's national telephone company. Thanks to Mactar's leadership, there are now more than 1,000 telecentres in Dakar, Senegal, offering public telephone access with potential for future telematics services.

Lennarth Bernhardson -Lennarth was among the pioneers in the Swedish telecottage movement, where the idea for telecentres was first introduced. He managed Telestuga Fargelanda for almost a

decade. He's now on a leave of absence from his everyday duties as a telecentre manager.

Nebo Legoabe- Nebo works with CSIR in South Africa and assisted in the start-up of the Mamelodi telecentre in Pretoria, South Africa. Among her many responsibilities with CSIR is to foster the growth of telecentres there. She has recently launched a "Collaboratory" service to foster electronic exchange to help this to happen.

Richard Fuchs - Rich is the President of Futureworks Inc. in rural Torbay, Newfoundland, Canada. He established North America's first telecentres in 1989 and served as the Chair and CEO of a Crown Corporation responsible for rural telematics informatics development for 10 years. He has visited and worked with telecentres on every continent.

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Introduction RICHARD FUCHS rfuchs@fastfwd.com

I remember how I came to learn about telecentres. I was working as the Director of Research in a government agency for Rural Development back in 1986. I had acquired the first notebook computer (a Zenith) in the entire government service. Every time I would go out to do field work with a rural development association, I would lug my computer along with me.

Jennifer O'Quinn, then the Coordinator with the South West Coast Rural Development Association, was the first "recipient" (I'm sure she felt more like a "target") of my growing preoccupation with diffusing information technology in rural communities. With two of my colleagues in the front seat of the car that was returning from a meeting in Stephenville (Newfoundland), I had the portable (it was really "luggable") Zenith on my lap in the back seat with Jennifer. I asked her to hold on to my battery operated Diconix printer.

My objective in all this was to show her how we could type up the minutes of the meeting we had just attended and then print them out on the spot. This would save the weeks it often took for rural development meeting minutes to get circulated by post and then actually implemented. We managed to type and print one page of minutes in the back seat of the moving car. I was delighted with what we had accomplished. Jennifer was polite enough to put up with me.

This preoccupation with bringing information technology and later, network and communications technologies, to rural development people and processes led in very short order to learning more about how others had approached the same challenge. My attention and interest was quickly brought to Vemdalen, Sweden where Henning Albrechtsen had developed the first telecentre in a rural Swedish farming community. Henning was a gifted linguist, among many other things, and he had been able to operate his translation service from this small Swedish village. Surely, others could benefit from the same technologies in the community around him!

From these very modest beginnings in rural Sweden, a telecentre movement has grown quickly and remarkably to be found, ten years later, in almost every corner of the world. There have been no marketing campaigns to make it grow. No large organizations have been formed to manage the growth from one place to another. The telecentre idea is one which seems to make sense in the developed and developing world, albeit each time it is adopted in a new environment, it tends to take on new forms and find its own roots.

More than anything else, the telecentre movement is just that...a MOVEMENT of people who ask the same basic question: how can my community, my region or my country participate in and benefit from the social and economic opportunities associated with the Information Society? The answers always come back to a common meeting place, called a telecentre, where people can be exposed to the tools, skills, attitudes and values of information and network technologies.

The collection of case studies which follows in this report reflects the history of some of the earlier telecentres as well as the new telecentre forms which are emerging in West Africa and Southern Africa. The way in which the convergence of information, communications, education and entertainment technologies occurs in the developing world will not necessarily be the same as it has been in the industrial North. Nor should it be.

The patterns of shared use and common, rather than individually owned, infrastructure is clear in the two African case studies in this volume. Indeed, it could be argued that the patterns of telephony and computing which have emerged in the non-industrial North have much more relevance for the developing world than might otherwise have been expected, as is also evident from our telecentre case studies in Canada, Wales, Sweden and Australia.

WHY TELECENTRES?

The most important reason for telecentre establishment, and their most enduring legacy, is the "diffusion effect" which telecentre services and the people who run them have on the communities and the regions which they serve. In every place where successful telecentres have been established there is a visible and identifiable change in the skills and capacities of the people and institutions.

In the early days of telecentre development during the 1980's, the marketing reach of the software and computing firms had yet to become fully global. Telecentres provided the only way in which "back of the market communities" could accelerate their access to these new tools of the knowledge-economy.

Had telecentres not emerged, the "trickle-down" theory of innovation and diffusion would have remained in effect. Only those with the proprietary resources to engage the enabling effect of the technology would have had access to it, leaving those in "back of the market" communities with the recurring problem of access to technologies only as they reach the end of their product life.

Successful telecentres alter this paradigm. They bring "state of the market" technologies and skills to "back of the market" communities. This transforms the human, organizational and commercial capabilities of marginal communities and peripheral areas to participate in the Information Society.

TELECENTRES ARE NOT THE INTERNET!

In the late 1990's, with the ever expansive presence of the Internet and the World Wide Web, the issue of access and affordability to the skills and tools of ICT is taking on new dimensions. While access to the Internet is increasing at an exponential rate1, simple access to the Internet assures only the technical possibility of using the Internet. Unfortunately, many people confuse *access* to the Internet with the

ability to use the tools of the Information Society. Access and ability are very different things.

As is clear from all of our case studies, telecentres do much more than provide people in "back of the market" communities with access to the Internet. In fact, the use of network technologies is the final stage of a process of informal learning and technological diffusion. Once someone has mastered the skills and developed the self-confidence to use the Internet, they are at the end of a process of learning which provides them with skills and tools to be largely self-directed in their future use of ICT tools.

Those who use the services of telecentres will commonly go through a 3 step process. First, they come to see how the equipment and facilities available in a telecentre can be made to work for them. Whether they are a business person, a nurse, a teacher or a local government worker, each individual has to come to see and learn if and how the tools of the Information Society make sense for them.

Second, almost all people need to be reminded of how to use information. Many people use an information resource which is "stale-dated" at the time of their formal educational completion. Before people can even conceive of using an information resource like the Internet, they need to relearn *"information seeking behaviour"*. This is especially the case in "back of the market" communities where intuition and traditional problem solving techniques which are orally transmitted over the generations predominate in people's everyday lives. Learning how to find value, to seek and to apply information is the second stage of how telecentres bring new capacity to marginal communities and peripheral regions.

The Third Stage in this development process is how to use communications to add value, speed and breadth to information. This is now done primarily through the use of resources like the Internet. In the early days of telecentre development, as our case studies demonstrate, the Internet had hardly moved from behind the walls of the university. The early telecentre pioneers had to find other ways to link their communities to the outside world of information.

Telecentres are about much more than the Internet. Telecentres are the locus for the diffusion of skills and access to tools associated with the Information Society. Simple access to the Internet assures only that those who already know how to use the computing and telecommunications devices and know the value of information will have access to an additional resource. Telecentres help bring many more people to this point of personal information capacity. Telecentres are not the Internet. They are about a much broader diffusion of skills and tools for the Information Society.

ICT DIFFUSION IS A "BODY CONTACT" SPORT

In all our case studies it is clear that the "people resource" of the telecentre is the most important asset and component of the service. Without knowledgeable, community oriented telecentre staff who really want to share the tools and capacities of the Information Society, no telecentre can hope to succeed. How many "information" services have been organized which provide only the computer, the printer and possibly a connection to the Internet? Have any of them ever succeeded without the human resource to introduce, modify and build the service within the community?

If the human support for the telecentre service is not the pre-eminent resource focus then only those who already are self-directed users of ICT tools will benefit from it. How many of us, who now use ICT tools as a matter of everyday life, first learned *how* to make the computer, the keyboard, the software and, eventually, the Internet sensible through the informal coaching and periodic support of someone else? Having gone through that learning process, how many of us now enjoy the opportunity to help someone else learn these same skills?

Telecentres are based on exactly this type of informal coaching, periodic support and skill transfer. Without the people within the telecentre who can actually organize and implement this type of service, only a very small segment of the community, which probably doesn't need much help, will benefit. Especially in the early-going, the people resource of the telecentre which can provide one-on-one coaching and assistance is mission-critical to success.

TELECENTRES ARE FOR A "GOOD TIME, NOT A LONG TIME"

In the words of the 1970's Canadian rock band, *Trooper*, telecentres exist for a "good time, not a long time." It is clear from all of our case studies that telecentres go through cycles of evolution and change. In the case of Wales, telecentres converted from being diffusion catalysts into centres for the organization and marketing of telework or distributed work. In the Canadian example, the telecentres were "re-invented" to become part of regional economic development or distance education. In Australia and Sweden, telecentres which lasted beyond the diffusion stage, moved to provide contract services to local and national markets who were willing and interested in data-entry and other IT related services.

It is clear that at a certain point in time the primary job of ICT diffusion is accomplished. Either the telecentres move on to address other "back of the market" needs or they are no longer required, at least as far as their original mission is concerned. As this author can attest, this is a very difficult adjustment process for all concerned.

There is, however, a point in time at which local institutions, both public and private, become sufficiently enabled that their capacity to scan the market, adopt appropriate technologies and then diffuse them within their own ambit of responsibility becomes self-generating. This is the point at which the ICT diffusion role of the telecentre has to either be re-invented or the telecentre has completed its mission and should close its doors.

Telecentres are not an end in themselves. Their original purpose of ICT diffusion has a beginning, a middle and an end.

FROM PUBLIC GOOD TO PRIVATE PRACTICE

In the non-industrial North, telecentres all began with public investment to create a public good. In Canada, Wales, Australia and Sweden, there were considerable investments by governments in telecentre establishment to attempt to build local capacity to provide people with the tools and the skills to participate in the Information Society.

Over time, the public investment either entered a "contracts" phase or ceased to exist altogether. The Welsh, Australian and Swedish telecentres all moved to financing arrangements which were based on contracts with former public investors and with new public and private partners. All of the telecentres, as well, moved to implement increasing "user pay" services. Our Senegalese case study begins at the "user pay" end of this continuum within an urban market-scope and then seeks to use contracts and public investment to bring more services to rural areas.

It can, thereby, be deduced that telecentre financing can be planned to move through at least three financing phases. The first of these is the *Investment* phase, by which public and not-for-profit (IFI) development organizations form partnerships in the local community to attempt to increase local capacity to participate in the Information Society. The preoccupation at this phase is with creating a public good. Accordingly, public support, financing and investment is a rational decision to achieve a rational, measurable and observable outcome.

The second phase is what might be called the *Contracts* phase at which point the telecentre enters into contractual undertakings with government agencies, health organizations, educational agencies or other institutions to provide training, technical support and related information and communications services. At this stage the telecentre is becoming an entrepreneur. This is very difficult to accomplish.

If the telecentre has succeeded, it will have helped to generate small private-sector start-ups in the

information sector, which will also be seeking contracts for services and may be relying upon the telecentres' technical infrastructure to support its business case. This type of expectation is described in the Canadian telecentre case study. The telecentre manager, now turned entrepreneur, needs to be mindful that it should not be competing with small scale firms which it originally helped to animate. Rather it should use the telecentres' infrastructure, experience and skills to help both succeed.

The third stage of financing development is what might be called the *User Pay* phase. Simply put, this involves individual and institutional clients paying for the use of facilities and services on simply an as-needed basis. The Senegal case study which is included in this report is a good example of this. While a case can be made for this type of approach reaching eventual success in "back of the market" urban locations, it is extremely unlikely that this will ever become the dominant form of financing in a rural location.

The fact, however, is that a telecentre will have to deploy all three revenue streams if it is to succeed. Moving from investment to contracts to user-pay takes careful planning and a clear understanding by all parties that this is the planned approach to sustainability.

TELECENTRES-THE FUTURE!

It can reasonably be argued that the first wave of telecentre formation in the non-industrial North has come to an end. The diffusion effect has been accomplished. Both through the efforts of telecentre pioneers, such as our case study contributors, and because of the increasing market-reach of the ICT suppliers, most public and private institutions have found a way to learn about and introduce these ICT technologies into their everyday operations.

A visit to the offices of many major capital cities in the developing world will lead to a very different conclusion. In many cases the diffusion effect of ICT has barely begun. Travel out to the country-side in much of developing world and the type of communications which many now take for granted can hardly be found. In much of Africa, Asia and Latin America, village life replays it's daily routine unaffected by the Information Society.

We hope this report adds value to the experiences of our developed and developing world contributors in providing a narrative "snap-shot" of how telecentre pioneers introduced their communities to the Information Society. We can only hope that this makes a contribution to those charged with assisting the developing world with navigating their way through the next wave of telecentre establishment and development.

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Telecentre Case Study - Southern Labrador, Canada <u>SHEILA DOWNER</u>

A Beginning Thought

This recount of the events and work that lead to the establishment and operation of the Southern Labrador Telecentre has brought to light the strong partnerships that existed within the region to allow the quality of service that was provided to users of the Telecentre. There were the pioneers that made it happen, the supporters who provided resources, the partners that maintained quality and the users that respected and valued the service. I am so honored to count myself amongst those who were a part of one of the province's most successful economic development initiatives.

Ten years ago in 1988, someone had a vision of how the application of information technology could help the economy of Newfoundland and Labrador. That person was Richard Fuchs. Having had some knowledge of the potential in this activity and of what was happening in Scandinavia, Richard was able to secure funds to begin the planning for the province's first information technology project (The Enterprise Network).

One of the first steps of the project was to pull together a Steering Committee to travel to Scandinavia to admire the information technology developments of that region and to specifically see and learn from their tele-cottage (telecentre) concept. The result of that visit was a plan of action to establish a series of community telecentres throughout Newfoundland and Labrador. Funded through a 70/30(%) joint agreement of the federal and provincial governments, there were six telecentres established in rural areas of the province.

One of these telecentres was planned for what seemed like the "most unlikely place" in Labrador.

Labrador is a northern area of Canada that has a land mass of 112,800 square miles, is home to thirty two communities and a population of 30,000 people. The communities stretch along five distinct regions. Only the central and western regions (population total 20,000) have highway connections to the remainder of the country. Labrador has a strong cultural spirit with a very active aboriginal community and a rich history that connects with many nationalities. The Southern Labrador Telecentre proved to be one of the most successful centres in the province. The Southern Labrador Telecentre was established in the community of Forteau. Globally speaking, Forteau can be found at N5126 Longitude and W5711 Latitude. Locally, it is a small community of 600 people that is nestled on the South coast of Labrador and twenty kilometres from the Lower North Shore border of the province of Quebec.

Forteau is one of seven communities which comprise a region known as the Labrador Straits. This region has a total population of 2000 people. Traveling to Forteau can be considered a challenge for some. Airline flights are available six days per week and, from May to January of each year, a ferry service is available to the island of Newfoundland. Forteau does not yet have a road connection to the remainder of Labrador or outside the Quebec Lower North Shore.

The economy of Southern Labrador has traditionally been based around the fishery. Men and women of this area have built one of the world's most successful fishing industries, providing eighty percent of the local employment and bringing a fairly high standard of living to local communities. Unfortunately, fish stocks dropped to an all-time low in 1992 and the federal government declared a province-wide moratorium on the cod fishery. This found communities struggling to hold economies together and local residents scrambling to make decisions about what to do with their lives. This came to be a very important time for the Southern Labrador Telecentre. Many local people opted to change their vocation. They needed information on available training, business support and assistance with developing business plans. The Telecentre was a key partner in the community planning and response to this crisis. It also served as the region's key information source and business support centre.

Labrador's Embracement

I came to Labrador from Newfoundland in 1984, with my well-laid plan to "work, make money, and leave". I have since grown to hold an extremely strong allegiance to Labrador, its issues, its people, and its potential. My work in Labrador has been in economic development in one capacity or another and I strongly believe that Labrador holds an abundance of promise for development and prosperity. I further believe that information technology is a key factor to that development.

Living in a rural, somewhat isolated region, ten years ago did not provide easy access to up-to-date information. You did not always know what the most recent developments were or what new inventions had been created. I therefore, must admit my guilt and lack of knowledge and appreciation for the possibilities of information technologies back then. I was involved as a Director of the local Rural Development Association in 1989 when the region first learned of the telecentre concept. Stelman Flynn, an area businessman and volunteer was involved as a member of the steering committee that visited Scandinavia. Being the local champion, he worked diligently to inform local residents of the upcoming plans for a community sponsored telecentre. I recall attending an information session where Stelman tried to rally enthusiasm for this new economic development, but there seem to be little appreciation for the impact that this service would actually have on the development of the communities of Southern Labrador. At that time not even our governments had embraced the magnitude and potential of the information society.

Considering the issues at hand during the time the telecentre concept was being promoted, it's no wonder people failed to display optimism. People were dealing with employment issues, health care, basic municipal and transportation services. There was no demonstration of telecentre models from the province. The province did not have any such services at that time. In fact, there was no experience in the field of rural electronic communications either provincially or nationally and very little previous effort to bring technology to the rural communities.

Local Setup & Services

The Telecentre was established in 1991 as part of an office complex (E.M. Taylor Resource Centre) that would house various community development agencies. The Telecentre was co-sponsored to the region by the local rural development association (Southern Labrador Development Association) and the tourism development corporation (Labrador Straits Historical Development Corporation).

To ensure local input from the region regarding the operation of the telecentre, a local advisory committee was established with representatives from each of the two sponsoring groups, a representative of the chamber of commerce and a representative of the local telecommunications company (NewTel). This became an excellent forum for evaluation of the facility's operation. It also helped to build community partnerships for the expansion of information technology initiatives.

The initial setup of the Telecentre drew the first display of real interest from the local residents. Once the community was exposed to the technical setup, the equipment, the furniture, and the physical layout of the facility, it became a much more tangible being. A major portion (24'ft x 32'ft) of the E.M. Taylor Resource Centre was used to house the Telecentre and it has served as the core of the complex. Employees within the complex all shared the community development mandate. This was the target market of the Enterprise Network/Telecentre and it was therefore very practical that the very core of the local client base worked in the same building. This provided the ideal circumstance for building strong client relationships. It allowed a daily exchange of information and ideas; was very practical for training purposes and helped to build a very successful "ambassador" marketing strategy. By maintaining this type of relationship with the agencies within the complex, they then became excellent ambassadors of the services of the Telecentre. Being located in such close proximity to other agencies also provided the client with a "one stop shop" service. Clients who came to visit the local employment services in the building often came to the Telecentre to prepare resumes or to do an Internet search for employment possibilities. Enterprising individuals planning a new business venture would come to gather information for their business plans, use the equipment to prepare the plan and then could meet with other agencies, such as the development association or the Chamber of Commerce for support of their business idea.

One of the most common statements given to us in the evaluations of the Telecentre and its services was always regarding the atmosphere of the facility. The Telecentre provided a professional, relaxed setting that provided clients with "hands-on" assistance and access to the technical and/or information resources. With six workstations, two printers, scanning capabilities, electronic mail, and the provision of individual network accounts, the Telecentre soon became the region's most prized technological resource.

Client usage of the Telecentre was always recorded and used to gauge services and the need for change. Considering the lack of computers in homes, businesses, and local office environments, it was not surprising that the majority of clients came to the Telecentre to avail of the hardware and software resources. The Telecentre carried a wide selection of software to meet the needs of the local clientele, including accounting, word processing, graphic design, and database development. Many local business people saw the Telecentre as an invaluable service. Making the investment for a computer system for a small town business can be very taxing. However, learning the required skills while using the Telecentre resources proved to be very valuable to many of the local businesses. Business clients that used the Telecentre resources to improve their efficiency or to market their products and services became excellent champions for the Telecentre and its objectives. One such client was Phillip Earle. Phillip is a young entrepreneur who first came to the Telecentre as a fisherman looking to become a businessman. Phillip operates a telecommunications company (pager service) and the region's courier service. Phillip has used the Telecentre to develop his business plan, his marketing materials, and to do his accounting. Phillip now uses his own technology resources to operate his businesses and connects to the Internet to track shipments for his courier business. The Internet has allowed him to be informed of most courier businesses in the country and has also helped him form partnerships with larger courier services to

ensure he can provide a full range of services to his customers.

Prior to the Telecentre, there were no plans to move the Southern Labrador region online. There was no local experience with electronic mail, databases or the Internet. Establishment of the Telecentre in Labrador brought with it an immense technological advancement for the region. The only available computer systems within the region at that time were Commodore 64s, and the "state of the art" 286 computers. Very few homes had computers and use of them was primarily at the local schools and office environments. The Telecentre brought the area's first network with its Novell DOS platform and in the early days provided a long distance dial-up electronic mail service. This later changed to the Windows environment and provided people with a local dial-up number for the electronic mail exchange. This service continues to operate today.

The technical picture of the region has drastically changed in the past six years. According to a recent survey, household computers now total some 235, schools are equipped with state of the art systems, have network capabilities, and do have some access to the Internet. As well, all local offices are using the latest hardware and software and more and more local businesses are recognizing the benefits of technology to their net revenues.

Internet access has been available to the Labrador Straits only since 1995. The primary problem with providing access is the astronomical costs that must be incurred. Because access is available only through long distance lines, an average Internet visit of thirty minutes can cost a user approximately \$15 dollars. This has obviously been a major deterrent to any efforts to get local users on the information highway. Local telephone systems operate on an antiquated analog system with a guaranteed bps of 9600. Efforts are being made to encourage the telecommunications company to increase local bandwidth and provide affordable access to the Internet. Plans are in motion for system upgrades and a local Internet node within the next two years.

Staffing

The Telecentre began its operations with only one staff person, the manager. The manager at that time was Dennis Coates, who came to the area with his experience of having worked with the establishment and setup of a telecentre in rural St Alban's, Newfoundland. It soon became obvious that one staff person was not sufficient if quality service was to be maintained. A second employee was hired through special employment funding from the provincial government. Sheena Dumaresques was hired as an assistant-trainee. Through her skills development and experience from the Telecentre, Sheena later went on to open the region's first desktop publishing business with her brother. The business continues to operate and has expanded its services to include framing services and computer generated sign manufacturing. The business has two full time employees and an annual net revenue of \$60,000 dollars.

I worked as the Coordinator of the Rural Development Association when Dennis moved to assume responsibilities in another position. I believe because of my close working relationship with the Telecentre and my experience as an economic developer that the manager's position was offered to me. I worked as Manager of the Southern Labrador Telecentre from 1993 to 1997. Those four years provided me with more knowledge, skills, and valuable experiences than many people gain in a lifetime. The Telecentre project held a strong team of employees with a variety of backgrounds in rural development. The project was not a "technology project" but was instead an effort to foster rural development through the application of information technology concepts and support services. Knowing this, my worries did lessen about my extent or lack of technical training. I recall being very apprehensive about my ability to take care of the day to day technical problems that could occur. My technical experience included only the very basics and were to a large degree, very specific to software applications. I generally find technical matters to be intimidating but with the help of the technical staff working from the St. John's support office, I was able to operate the Telecentre efficiently and with great success. Helping me with the day to day operation was a very capable and skilled assistant, Todd May. As a student of Business Administration in St. John's, Todd had spent some time working with the St. John's support office. When the position of Operations Assistant became available in Forteau, he seemed an obvious choice.

Todd was very professional and worked very well with the clients and partners of the Telecentre. Todd also had a rural background and was a true asset to the Southern Labrador Telecentre. In reflection, I wish, for my own sake that I had had a natural talent toward technical matters. However, I firmly believe that without the community development knowledge, the job would have been very difficult and would surely not have been successful.

Another attribute of the success of the Southern Labrador Telecentre was definitely the management style of the project leaders. As manager of the Telecentre, I was given complete freedom within the project's mandate to operate the facility to best meet the needs of the region. Each of the Telecentre's within the Province were operated to "fit the community". There was a core set of information products and services that became standard to all Telecentres. The promotion of services followed similar guidelines, but the variety of services and the local partnerships varied according to the regions and their development initiatives.

How The Telecentre Helped The Community

Human Resource Development

Aside from bringing the first technological business support centre to the region, the Southern Labrador Telecentre also played a key role in the development of local skills as they relate to software applications, electronic mail, online databases, the Internet, and the World Wide Web. Much of the skills transfer took place through one-on-one sessions. This type of training sometimes took place at the Telecentre and sometimes at the workplace or business of the client. This type of training was generally preferred by the client and was very effective. Many people are intimidated by technology as "first time" users and learn much better through individual training or small group sessions. Most of the Telecentre clients were members of the economic development agencies, and/or the business community. These clients had not been exposed to a great deal of technology and required dedicated efforts to ensure the technology would be of benefit to their work. These same clients are now some of the community's most proficient users of hardware and software. It is very gratifying for me now to be able to call upon a client of the telecentre for technical assistance, myself.

In the case of the development associations in Labrador, the Telecentre was a key partner in accessing funds to purchase equipment and train the staff of each Association. The objective was to train staff in the basic software applications, electronic mail and the online information products available through the Enterprise Network. These staff could then serve as information agents or resource people for their Board of Directors (volunteers) and their regions. These staff did serve as a network of people to the Telecentre when there were client requests outside of the Telecentre's immediate region.

One of most memorable clients of the Telecentre for me was Mrs. Mary Taylor. Mrs Taylor is well known locally and worked as a nurse with the Grenfell Regional Health Services. Mrs. Taylor is the namesake behind the E. M. Taylor Resource Centre, where the Telecentre is located. Mrs. Taylor is a very active seventy three year old lady who came to the Telecentre to do her memoirs. She had some experience with typewriters, but very little with computers. She wanted to learn WordPerfect and format her manuscript for submission to potential publishers. She was, in some sense, outside of the Telecentre's target market but I felt it was important to assist her. She did indeed learn WordPerfect and did complete her book. We are awaiting its release.

Business Community Development

Through its business support services in advice, planning, and information the Telecentre played an important role in helping to increase the business community of the Labrador Straits. At the time of the Telecentre establishment, the federal and provincial governments were providing an array of funding programs to new and existing businesses. This was welcomed news to regions in the midst of a fishery

crisis. There were large numbers of people who looked at the possibility of opening their own business. Southern Labrador, at that time, did not have any local consultants and the Telecentre became a very important information source for those who needed information and assistance with the preparation of business plans. It was during this time, that the Telecentre developed a series of information products that could be available on demand for clients. These products included demographic profiles of local communities, local business directories, and contact directories for local municipalities, schools, groups and agencies.

Information sessions, and target promotion to different sectors of the business community saw many of the local businesses coming to the Telecentre to learn how to develop brochures, Web pages, business cards, newsletters, posters, and sales flyers. This type of service has led to a much more professional image of local businesses and formed the basis of the area's privately owned desktop publishing business. The Telecentre has also had a direct role in encouraging many local businesses to broaden the scope of their marketing through the World Wide Web and open their business to the global marketplace.

The Telecentre also played a key role in establishing the Labrador Straits Chamber of Commerce. During my work as Telecentre Manager I facilitated several consultation sessions with the business community, and in the initial stages of organization I provided the Chamber with administrative support and the resources of the Telecentre. In addition, the Telecentre became a key partner in the development of a proposal for a Business Development Officer for the Labrador Straits. The Telecentre provided office space, a computer, and training for the staff person. The Telecentre has also assisted the Chamber with its campaign to promote the Labrador Straits "As a Good Place to do Business". Through the resources of the Telecentre, the Chamber was able to develop a professional display for conferences, with photos, maps, back grounders, profiles, and brochures. To complement the display, the Telecentre also assisted the Chamber in the development of PowerPoint presentations of the area and its services.

Technology Development

The Southern Labrador Telecentre worked within in a very broad framework. Components of that framework include indicators of actual success of technology development that can be viewed in the following ways:

- the number of actual IT businesses that have started in the region;

- the level of IT awareness of residents, local businesses, and development agencies;

- the local initiatives and support for access to the Internet, equal to that of urban centres;

- the level of IT skills amongst local residents.

One of the most celebrated partnerships of the Telecentre has been with the Southern Labrador Development Association and the Historical Development Corporation to form the non-profit company known as Labrador Software Inc.. This partnership was formed as a result of a project to create an electronic promotional product of the Labrador Straits (Labrador Straits Tourism Database). The project encompassed a team of data and photo collectors and employed two individuals to design an electronic book of the Labrador Straits. The product was created using Toolbook software and was made available in tourist chalets throughout the province. The product has since been converted to CD format and can also be viewed from the region's web site (http://www.seascape.com/labrador). Following the completion of the Tourism Database project, a decision was made to set up Labrador Software in hopes of securing contracts to employ local people in IT related work. The company has completed a number of activities and has recently completed a suppliers database of the Labrador Business Community for a major mining company involved with the Voisey Bay Nickel Mine.

The six years of operation of the Telecentre brought about many changes within Southern Labrador. Awareness of technology and local IT skill development has increased astronomically. This is evident through a number of factors:

- registered clients of the Telecentre	- 1012
- average monthly Client visits	- 285
- household computers	- 235
- local residents requesting Internet services	- 130
- local businesses with www presence	- 10
- local business using technology	- 30%
- local municipalities using technology	- 80%
- local development/government agencies using technology	- 100%

In an effort to improve local access to the Internet, the Telecentre helped to organize the region's first Telecommunications Group. The mandate of this group is to assume a leadership role in initiating efforts to bring affordable Internet access to the local communities. The group's membership is comprised of a wide selection of business representatives, development agencies, schools, health care workers, and municipalities. The group is currently working on a campaign with the local telephone company for service upgrades and is coordinating a major initiative to establish seven community public access terminals in the local schools, library, and learning centre.

Partnership Development - Partnership building has definitely been one of the most important elements of my work with the Telecentre. It has been key to the realization and success of many of the initiatives that have been undertaken. Aside from those activities already mentioned, the Telecentre played an instrumental role in several other development initiatives, including:

Mountain Field Academy Computer Resource Centre - The Telecentre worked with the school to secure funding to purchase necessary equipment to establish a computer resource centre that would be available to students and parents after school hours. The school used the facility during the school day and utilized the technical experience of the Telecentre. The Telecentre had access to the facility for training sessions during evenings and weekends. During the summer, the Telecentre used the facility to coordinate a computer camp for children (ages 5 - 13 years).

Partners In Learning - I have represented the Telecentre on this group and have participated as a founding member to address the literacy problems of local communities. The Telecentre provided key information to the group in its organizational development stage and assisted in the development of the group's three year plan. The Telecentre also provided training to the staff in software applications, electronic mail, and Internet searching. Involvement with the Partners In Learning group eventually grew to include serving as a resource person to a pan-Labrador Literacy Network. My role in this capacity has been to provide advice and information on electronic communication, applicable funding programs, and IT skills training.

Community Access Program - The federal government of Canada provides funding to a maximum of \$30,000 dollars for communities to provide publicly accessible Internet sites. While attending a staff training session in 1996, I was informed of this program and took it upon myself to pass the information along to the communities of Labrador. Aside from the two larger towns, Labrador communities do not have any local access to the Internet. This program offers an excellent opportunity for communities to get online and build local skills. Ten proposals were submitted and approved for Labrador for this year's funding. The Telecentre will play an instrumental role in the Labrador Straits where seven free standing sites will be established in the local communities. These sites will offer free access to the general public and an opportunity to learn Internet skills and html writing and design. Each site will have the capability to dial to a local server, which will be housed and maintained at the Telecentre. This server will be the "Labrador Straits Virtual Community Channel" which will feature daily news reports, weather reports, job advertisements, regional calendar and business directories.

Summary

The Southern Labrador Telecentre has been an instrumental part of the development of Southern Labrador in the past six years. When news of the government's decision to discontinue funding for the province's telecentres came to the region, there was a massive public outcry. Unfortunately it did not change the decision. However, the fact that the facility remains open is a true testament to the success of the facility and to the will of the region to maintain a resource, in which they believe.

Following the news to cut the Telecentre funding, the governments announced an Information Technology Development Project to provide funds for an IT development officer for the Telecentre regions. I was hired for the Labrador position and am currently working with the development corporations to assist in the development of information technology in the five regions of Labrador. I am working from the Telecentre in Forteau and am working with the local region to ensure the Telecentre services are maintained.

While evaluating the Telecentre and its six year operation, a client made a statement that I believe best sums up the proof of the facility's success. "What we were doing six years ago, when the Telecentre began, has become the future - the information technology society. Our history is still the future for many areas."

"LITTLE ENGINES THAT DID"

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CASE HISTORIES FROM THE GLOBAL TELECENTRE MOVEMENT

IDRC Study/Acacia Initiative Prepared for IDRC by Richard P. Fuchs Futureworks, Inc. June 1998

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Telecentre Case Study - Australia

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Introduction

The strain that difficulty of communication places on the maintenance of social ties and cohesion was apparent very shortly after the European settlement of Australia in 1788. Unable to successfully transfer their agricultural knowledge to the infertile soils of Sydney, the first settlers were soon in dire need of food supplies. A close watch was kept on the blue horizon of the Pacific beyond the headlands of Sydney Harbour for the sails that would signal a respite from near-starvation. But, as one of the waiting soldiers recorded in his diary in 1790, it was also food of another kind that the first settlers were starved of.

We pushed through the wind and rain, the anxiety of our sensations every moment redoubling. At last we read the word 'London' on her stern. "Pull away my lads! she is from old England! a few strokes more and we shall be aboard! hurrah for a belly-full, and news from our friends!" ... A few minutes completed our wishes, and we found ourselves on board the 'Lady Juliana' transport ... We continued to ask a thousand questions on a breath. Stimulated by curiosity, they inquired in turn; but the right of being first answered, we thought, lay on our side. "Letters! letters!" was the cry. They were produced and torn open with trembling agitation. News burst upon us like meridian splendour on a blind man. We were overwhelmed with it; public, private, general, and particular. Nor was it till some days had elapsed that we were able to methodize it or reduce in into form. [1]

Not only did the difficulty of communication gradually separate Australian society from British society, but it also shaped both the national identity and the economy. The vast tracts of the interior became

grazing lands for a sheep and cattle industry in which a letter might take a month to reach an agent in Sydney, and a year to reach a customer in England. The heroes of the songs and stories that formed the beginnings of Australia's distinctive culture were those who traveled the great distances of the inland to make the pastoral industry possible — the bullockies who walked beside swaying wagons piled with wool bales, the drovers riding with mobs of cattle to market and the bands of shearers traveling from shearing shed to shearing shed.

One of the drovers shifting mobs of cattle and horses through the interior in the 1890s was Sydney Kidman. Starting with a few astute land and business deals, Sydney Kidman eventually owned, or had an interest in, more than 150 cattle and sheep stations, amounting to over 160,000 square miles of grazing land. The key to his success in amassing the world's biggest pastoral empire was his use of Australia's first communication network — the telegraph. By keeping in constant contact with the operators of the lonely telegraph stations throughout inland Australia, Kidman was able to monitor seasonal conditions and pasture growth and devise stock movement strategies that allowed him to bring stock to metropolitan markets in prime condition. [2]

The telegraph network had been established by the State governments of Australia. These governments, and the Federal Government that came into being in 1901, were only too aware that the economic prosperity of the nation depended on effective systems of transport and communications. With the advent each of the major technological innovations of the 19th and 20th century, such as the motor car, the telephone, radio, television and microwave and satellite communications, governments invested heavily to improve transport and communications.

While modern transport and communications systems undoubtedly underpinned the economic prosperity of rural Australia, they also exposed regional economies to the vicissitudes of global economic restructuring. With a phase of economic rationalist agricultural policy, trade liberalization and government service withdrawal in the late 20th century, rural communities in many parts of Australia felt they were increasingly disadvantaged compared to metropolitan areas in the availability of employment and access to services.

As the Internet computer communications revolution appeared on the horizon in the late 1980s, and the story of the Hrjedalens Telestuga at Vemdalen in Sweden was reported in the business press, several staff of the Federal Department of Primary Industries Energy (DPIE) in Canberra speculated whether the concept might have potential to redress some aspects of the social and economic disadvantage being experienced in rural Australia.

The Rural Development Centre Study

In June 1990, DPIE approached the Rural Development Centre at the University of New England to undertake a study to examine the feasibility of transferring the telecottage concept to rural Australia. [3] The study reported on the Scandinavian experience to that time with telecottages and on similar initiatives in the UK and Eire. It also attempted a preliminary analysis of the factors that might affect the success of telecottages in rural Australia and the nature of the costs and benefits that might flow from them. The study was cautiously optimistic in its conclusions, suggesting that, while there were no obstacles to transferring the concept to Australia, the success of telecottages would be dependent on:

- the extent to which success was defined in terms of achieving financial viability or of welfare goals of ameliorating rural disadvantage,
- the quality and local relevance of telecottage management,
- technological and policy developments in the educational sector and in government service provision affecting the availability of services that telecottages might offer, and

• technological developments in the private sector affecting the ability of telecottages to compete on local markets for information and telecommunications services.

The report of the study was published in May 1991 and met with considerable demand, to the extent that it was out of print within a few months. The attraction of the report for many was its comprehensiveness in combining descriptions of experience to date, analysis and practical equipment lists and costs for telecottage establishment. [4]

Early Telecentre Initiatives

At the time of the publication of the Rural Development Centre study, there were already a number of initiatives under way in rural Australia that closely resembled the Scandinavian telecottage concept, but had been conceived independently.

The Walcha Telecottage

The Adult Learning Association in the small logging and wool town of Walcha (population, 1700) in the highlands of eastern Australia developed a cooperative relationship with the University of New England in Armidale, a town of 20,000 people 60 kilometres north of Walcha. Through this relationship, the Association was able to access Federal funding under the Innovative Rural Education and Training Program and, with the assistance of Associate Professor Graham MacKay of the University of New England, set up what was called at that time a "technology based community education and training centre". [5]

Training courses commenced in 1991 and by December 1992, over 200 people had completed the course. With further Federal funding from the Rural Access Program to appoint a part-time coordinator, the centre opened as "The Walcha Telecottage" on July 4, 1992. [6]

It was realized in the early days of operation that the survival of the Telecottage depended upon its ability to attract outside work. To this end, 20 people were trained in database entry and the Telecottage began to tender for data entry jobs. Despite the difficulties in entering the data entry market that are faced by a small cooperative from an little known country town, by late 1996 the Walcha Telecottage had become Walcha's second largest employer with ten employees working on site and a further twenty working from home. [7]

The Cygnet Telecottage

The Cygnet Telecottage was established in late 1992 in Cygnet on the south coast of Tasmania. As for the Walcha Telecottage, a future search workshop conducted by Australia's public telecommunications provider, Telecom, was important in assisting interested members of the community in refining their objectives for the telecottage. Also, a key to the successful inception of the Cygnet Telecottage was the involvement of local government, with the Port Cygnet Council acting as a sponsoring body and providing support and premises. However, subsequent amalgamation problems faced by the Council were a source of difficulty for the Telecottage. [8] Despite this, the Telecottage has survived and has been sold as a business to private operators by the community group that founded it [9].

The Byron Shire Telecottage Network

The Byron Shire Telecottage Network (BSTN) commenced operations in January 1993, with funding

from a Federal labour market program to run a six month Job Skills Training Course for ten trainees. [10] The BSTN was successful in obtaining further funding from this source, until a government agency began offering the courses in the same region. A change of government resulted in a severe reduction in the labour market programs on which the BSTN had been mainly dependent for revenue in addition to its funding from the Telecentres Program. At the same time, the Byron Shire Council, which might have otherwise been able to provide interim support for the BSTN, was experiencing financial difficulties. The coincidence of these two events led to the financial failure of the BSTN [11] and it was closed in April 1996. [12]

Related Educational Initiatives

In the late 1980s and early 1990s, a number of educational providers were experimenting with technology-based forms of distance education. While these initiatives did not involve setting up telecentres, they nevertheless established the feasibility of using the advances in telecommunications to deliver educational material to rural areas — a function that was subsequently adopted by some telecentres.

The Victorian Ministry of Education commenced a project in 1986 to trial the Mac/Fax/Duct system at 80 school sites throughout rural Victoria. The Queensland University of Technology, in conjunction with a number of other educational institutions, embarked upon the Queensland Open Learning Centre Network Project in July 1989. This project aimed to establish a comprehensive state-wide open learning system for higher education based on learning centres equipped with computers and telecommunications equipment to enable interactive learning.

In early 1990, the South Australian Department of Employment and Technical and Further Education trialed the use of video conferencing for the delivery of courses to several campuses in rural South Australia. [13] In 1991, the Western Australian Higher Education Council was undertaking a review of access and equity in rural and remote parts of the state. This review was to lead to the trial of the Western Australian Learning Network Centres in 1992 and 1993. [14]

The Telecentres Program

It was against this background of pioneering telecottages and distance education experiments that the Federal Government established the Telecentres Program with a first allocation of \$2.8M from the Federal Budget for financial year 1992-93. This was increased to \$4M in 1993. [15] The goals of the Program were broadly consistent with the mandate of the Rural and Provincial Affairs Unit within DPIE, which was to deliver a range of programs that assist rural communities to deal with economic and social aspects of the overall quality of life and prosperity of these communities. Specifically, the objectives of the program were:

By improving the availability and use of modern information and telecommunications technologies in rural and remote communities of Australia, plus fostering the associated skills and consequential opportunities, to:

- expand the opportunities for employment and enterprise, and
- Increase the competence and confidence of the broad community, through the utilization of relevant information and the delivery of services (including education and training) identified by the community as relevant to their particular needs.[16]

The rationale for this approach was that the viability and sustainability of agricultural industries was dependent on the strength of the rural communities that provided services to these industries, and the people employed in them. [17]

Table 1, below, provides a summary of the sites funded and expenditure in the four years since the inception of the Program.

		Table	e 1:		
Ave	erage allocations and e	xpenditures (after Alstor	n, Share, Heazlewood, Kent,	Rushton and Westcott, 19	97)
Year	Number of telecentres funded	Budget allocation \$m	Average allocation per project \$	Expenditure \$m	Average expenditure project \$
1992-93	13	0.70	53,850	0.67	51,540
1993-94	31	1.50	48,390	0.89	28,710
1994-95	43	1.00	23,260	1.49	34,650
1995-96	41	0.79	19,340	0.73	17,800

The intent of the Telecentres Program was that telecentres should become largely self-funding within two years. Each telecentre received funding for this two year period with further funding subject to a case by case assessment.

It has been estimated the Program has resulted in one in four of the rural population having access to a telecentre and that, on average, each telecentre was actively servicing 223 clients after its first twelve months of operation. A survey by the Australian Bureau of Agricultural and Resource Economics (ABARE) of the telecentres in 1996 [18] showed the following incidence of computer use on a fee-for-service basis

primary producers - 65 per cent of telecentres,

other businesses --- 74 per cent of telecentres,

students - 84 per cent of telecentres, and

other individuals and community organizations — 87 per cent of telecentres.

Apart from computers, other technology that was attracting use by a broad cross-section of users were photocopying, facsimile, word processing and desktop publishing, with the latter being particularly in demand among businesses and community organizations. The visits of telecentres conducted in association with the survey mentioned above revealed that a relatively large proportion of users were young people and women preparing to enter the workforce. Adult men in employment were a minority among users.

Most of the telecentres surveyed were running their own training courses, but relatively few were delivering courses for other education providers. The exception to this was Western Australia, where State government initiatives have resulted in a close relationship between telecentres and a major provider of vocational and post-secondary education and, more recently, the State Department of Commerce and Trade.

The ratio of revenue to costs for the 22 telecentres for which consistent data was available was found to average about 50-60 per cent. The average revenue levels from various sources apart from the DPIE Telecentres Program grant are shown in Table 2.

	Table 2		
Average per project revenue	e from various source	es (from the ABARE survey: A	Anon., 1996)
Revenue Source	Number of telecentres with	Average revenue	Standard deviation
	this revenue	\$	\$
Membership and user fees	15	798	1,208
Contract training activities	15	2,538	5,118
Business support services:			Ī
Word processing	8	216	426
Secretarial services	1	1,000	4,689
Data processing	4	725	2,477
Desktop publishing	9	905	1,806
Photocopying	11	655	1,123
Other	15	2,685	3,826
Other activities:			
Newspaper	6	2360	5,439
Equipment hire	12	635	1,322
Rent received	5	842	2,201
Other/sales	19	3,332	3,339
Total, all sources	22	25,136	22,585

It can be seen from the standard deviations in this table, that the levels of funding from various sources are extremely variable across the 22 telecentres for which data was available.

Of the telecentres surveyed by ABARE, 39 per cent rated their prospects of becoming financially viable by the time the DPIE funding ceased as good or very good. A further 35 per cent rated their prospects as average, while 19 per cent thought their prospects were poor and six percent saw them as very poor.

What Has Been Learned

Early Lessons

In December 1992, the DPIE ran a workshop that brought together aspiring applicants for telecentre funding and those who had already had some experience with the early telecentres. One purpose of the workshop was to share what had already been learned about the determinants of successful telecentre operation. The experience with the Walcha Telecottage showed that the role of facilitator is an exacting one, demanding a wide range of skills from teaching and course design, to advertising and marketing skills, to technical and programming expertise, to the ability to write grant submissions. The Cygnet Telecottage had found that it is unrealistic to expect community oversight of telecentre projects through

mechanisms such a steering committees to run smoothly and predictably. Community members have their own agendas and a limited amount of time to give to serving on management committees. [19] This places further demands on the telecentre facilitator or coordinator to be flexible and creative in maintaining the relevance of the telecentre activities to changing community goals.

The Senate Economics References Committee

In its report in November 1995 into future developments in telecommunications, the Federal Government Senate Economics References Committee gave some consideration to the performance of telecentres to that time and to coordinating the Telecentres Program with other related programs. The Committee reported that, while the telecentres had not been very successful in generating income producing activity, their main strength seemed to be the way in which they supported the acquisition of computer and information technology skills and raised the awareness of people in remote communities of opportunities beyond their immediate locality. The Committee also recognized that, because of the time needed for communities to adapt to and avail themselves of these opportunities, telecentres needed funding support beyond the four year span of the Telecentres Program. [20]

The ABARE Evaluation

The Australian Bureau of Agricultural and Resource Economics, a semi-autonomous entity within the DPIE undertook an evaluation of the Telecentres Program in late 1996. This involved interviews with telecentre coordinators, and mail surveys of both telecentres and other community groups who had made enquiries about the Program. ABARE considered that, although the Telecentres Program could not be justified on grounds of market failure (i.e. increasing the level of provision of information technology and telecommunications services beyond the level provided by private enterprise would not lead to an increase in net national welfare), it was certainly well justified on social equity grounds.

The two year support period prior to telecentres achieving self-funding was found to be too short and the ABARE evaluation recommended that the period of support be increased to 30 or 36 months.

The evaluation also found that, for telecentres that are part of a larger regional organization, there are benefits in economies of scale and access to expertise, but drawbacks in problems with accountability and with the telecentre objectives being subverted by the objectives of the larger organization.

The ABARE evaluation team considered that the success of particular telecentres derived more from the characteristics of their communities than from the levels of financial or other support provided by the Telecentres Program. Important determinants of success were considered to be:

- sound management by a highly committed and imaginative organizing committee,
- a high level of support from the community,
- a high degree of awareness of the needs of the community, and
- ability to identify and act upon opportunities to service those needs using the facilities of the telecentre.

The evaluation team also felt that high levels of qualifications in information technology were not a prerequisite for effective telecentre coordinators. Rather, successful telecentres tended to have coordinators with good skills in community work and business creation, as well as being competent in using the basic technology needed in a telecentre. Because people with this mix of skills may be difficult to attract to, and retain in, rural areas, the organizing committee needs to take an active role in the appointment and oversight of the coordinator to ensure that the coordinator's needs are being adequately

met.

The Evaluation of the Rural Communities Access Program

The Telecentres Program is but one of a suite of programs making up the Federal Government's Communities Access Program. This latter program was evaluated in late 1996 by a team of researchers from the Centre for Rural Social Research at Charles Sturt University. [21] Five factors were identified as being important in the success of telecentres:

- the capabilities of the telecentre coordinator, the management committee and interested individuals in the surrounding community, and the ability of these people to work together in a harmonious, goal-orientated relationship,
- the entrepreneurship, imagination and flexibility in the management and operation of the telecentre and the ability to take advantage of new opportunities,
- telecentres need to be outward looking so that the possibilities for business creation and service delivery cover a much wider range than would be the case if only the locality or region was considered,
- telecentres need to be responsive and adaptable to local conditions, and
- the quality of equipment and location near other businesses or service providers which may give rise to additional business or beneficial cooperative relationships.

Consistent with the emerging appreciation of crucial importance of the telecentre coordinator, the evaluation found that some telecentres had experienced problems with attracting and retaining suitable staff. A further problem encountered by telecentres in remote areas was the servicing of equipment, although some telecentres were overcoming this by developing the necessary specialist skills and moving into the servicing business themselves.

Conclusions

In the seven years that telecentres have been in existence in Australia, successive assessments of the determinants of success show a great degree of consistency. The factor that seems to have emerged as the most important is the level of expertise available to the telecentre and, associated with this, the commitment and enthusiasm of the group within the community responsible for the telecentre initiative. In Australia, there seem to be two distinct ways in which this expertise has been made available to rural communities and resulted in viable telecentres.

Firstly, migratory patterns within Australia can bring people with the necessary skills into rural areas, either as a consequence of metropolitan out-migration, or of cycles of migration in which people born in rural areas spend much of their working life in metropolitan areas, and return to rural areas in later life, perhaps to start a small business. People in this latter category, who have retained some of their rural cultural inheritance while acquiring the urbanite's confidence with technology and business creation, may constitute a key resource for community-driven establishment of relatively independent and viable telecentres.

Secondly, the necessary level of expertise can be brought to rural areas through a well resourced system of support, training and networked infrastructure provision. This approach appears to be proving effective in Western Australia and may be more appropriate to those rural areas where the migration movements mentioned above have not been as pronounced. The approach involves bringing ready-made assemblages of equipment into rural communities, providing the training in its use, setting up supporting

regional networks of coordinators and providing the telecentres with a stable revenue source in return for the delivery of government services.

These two quite different approaches to the establishment of viable telecentres are also characterized by different emphases in policy goals. Programs involving the first approach focus more on business employment creation, which may eventually by various trickle-down mechanism ameliorate rural disadvantage. In contrast, programs involving the second approach seek to reduce rural disadvantage in the levels of access to services more directly, with the expectation that improved access to educational opportunities and government services may eventually contribute to business and employment creation.

While these distinctions can be fairly readily drawn, it is important that the two approaches not be seen as competing alternatives. Rather, it would seem that each approach is suited to different levels of rurality and disadvantage. The first approach may be more appropriate where population densities are higher and disadvantage less severe. The second approach, on the other hand, could be more suited to areas that are more remote and suffering higher levels of disadvantage.

The second lesson that has emerged fairly consistently from the Australian experience concerns supportive relationships between telecentres and larger organizations. Such relationships are likely to be two-edged swords that can provide stability in the uncertain environments in which telecentres operate, at the risk of either the submergence of the telecentre's goals in the broader agendas of the larger organization, or the exposure of the telecentre to an additional source of instability if the viability of the larger organization is under threat. Capturing the benefits of these relationships and avoiding the risks is another area of skills demanded of telecentre coordinators and the community groups that support them.

In an age of increasing invasion of all spheres of life by the technologies that are showcased in telecentres, it is perhaps reassuring that human expertise still plays such an important role in the use of these technologies, just as it did one hundred years ago when Sydney Kidman used his intimate knowledge of the inland to turn the reports of telegraph station operators into stock marketing strategies, or two hundred years ago when information was conveyed to Australia via ten month voyages in frail sailing ships.

Acknowledgments

I am indebted to Jim Graham of DPIE for providing useful information and insights about telecentres in Australia.

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Note: Locations of telecentres are as follows:

New South Wales – Byron Bay, Walcha, Port Macquarie, Young, Tumbarumba, Eurobodalla, Bateman's Bay, Bega. Victoria – Hopetoun, Birchip, Heathcote, Cavendish, Camperdown, Apollo Bay, Wangaratta, Corryong, Maffra, Mallacoota. Queensland – Cloncurry, Hughenden, Blackall, Wondai, Maleny. South Australia – Wudinna, Tumby Bay.

Western Australia - Morawa, Mingenew, Perenjori, Leeman, Moora, Bencubbin, Beacon, Southern Cross, Merredin, Narambeen, Brookton, Hyden,

Kondinin, Lake Grace, Katanning. Tasmania – Currie, Cygnet, Dover. A number of these telecentres had satellite sites, so that the total number of sites providing telecentre services was 70.

"LITTLE ENGINES THAT DID"

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CASE HISTORIES FROM THE GLOBAL TELECENTRE MOVEMENT

IDRC Study/Acacia Initiative Prepared for IDRC by Richard P. Fuchs Futureworks, Inc. June 1998

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Telecentre Case Study - Wales PADDY MOINDROT paddy@cymru.net

Wales *(see Appendix one)*, a region of the UK bordered by England to the east and the Irish sea to the west, has had mixed fortunes over the centuries. Its hilly terrain made it a place for rebel hideouts during troubled times - for instance the Romans never conquered Wales: the same hills provided economic opportunities, firstly pastoral (there are still many more sheep than people in Wales), and then for mining (gold, lead, and latterly coal). It has its own language, Cymraeg, a Celtic tongue well over a thousand years old, kept alive by its use in chapels when English became "the norm" and now undergoing a strong revival assisted by government legislation.

The major centres of population are on the southern coast, with the capital Cardiff and the cities of Newport and Swansea being manufacturing centres. But even those cities, founded on the rich coal seams of the region, are now in decline, as the UK now meets most of its dwindling coal needs from overseas.

Rural parts of Wales have suffered badly from farm mechanisation: 400 acre farms that once needed a workforce of thirty hands manage with one person, and buy-in contractors as needed for harvesting or ditching. But farming encourages self-employment, which lends itself well to new ways of working. Nearly 30% of the population of rural Wales is now self-employed.

The decline in farming, coal mining and the related steel furnace industries has had a marked effect on the economy of Wales. The region turns now more and more to commitment to the service industries, with well over half the rural jobs in the categories of distribution, hotels and catering.

The last thirty years has seen the start-up of a number of community initiatives in Wales, in rural or deprived inner-city areas. These initiatives, set up as co-operatives or community charities, have as a common mission the economic and consequent social regeneration of their locale. In the latter years, these ventures have built upon the freelancing services of their membership, and pulled in new technologies to move work to workers rather than vice versa.

Enterprising Welsh Communities

One very clear example was Antur Teifi, a community charity based around the Teifi Valley near Newcastle Emlyn, who have always been expert in attracting grant aid, particularly from the European Union. In the early eighties they bought what must have been the first two facsimile machines in Wales, keeping one locally but putting the other in an office in Cardiff, near the Welsh Office centre of regional government. In Wales it is necessary for all government documentation to be bilingual, and civil servants in the mainly English-speaking Cardiff were able to fax documents to Antur Teifi, based in a Welsh-speaking area, for rapid translation. This little venture grew, and Trosol, as the service is known, now has offices near all the government authority offices across Wales.

This innovative use of emerging technologies was used by many of the enterprise groups, for example with the basic use of word processors, to produce community newspapers, tourism leaflets and books on local history, promotional literature for food growers etc., all part of the regeneration process. Much of the work of these was done in local resource centres, which came in the late 1980s to be known as "telecottages" in rural areas, or telecentres in towns and cities.

The Antur Tanat Cain Telecottage

One of the first telecottages in Wales was at Llangedwyn Mill, near Oswestry. The Mill was formerly a medieval corn mill, taking water to power its wheel from the nearby river, and had been converted by the local squire to become a sawmill around 1900. The county council had bought the mill complex, now in a derelict state, from the squire in 1982, and leased it to Antur Tanat Cain (ATC) (Antur is Welsh for enterprise, the Tanat and Cain are two local rivers), for a peppercorn rent (virtually free) provided it was restored and renovated to become a crafts complex, to provide work accommodation for small businesses.

In 1986, a time of high unemployment in the UK and especially Wales, ATC, now registered as a local community regeneration agency, took on a government contract to provide "job creation" work for fifty local unemployed adults. Much of the work was renovating village halls and the Mill itself, building sports grounds etc., but as a rather unusual project, a team of twelve was set up to survey all the local churchyards. The more usual "job creation" project would be to remove old and unsafe memorials to make graveyard maintenance easier and less expensive, but the ATC team set out to record, measure and photograph every gravestone in the six major churchyards of the area for posterity, in case at any time in the future the graveyard was "clear-felled".

The team soon found that the large volumes of raw data coming from the survey necessitated the purchase of a computer/printer together with database software. This would mean that copies of the survey result could be printed out on demand, rather than one hand-written copy deposited at the National Library. Data, input on a rota basis, could be sorted by memorial number, name of interred or residence, thus proving of great value to churchwardens, genealogists or historians. Accordingly a first Amstrad PC was bought, together with a dot-matrix printer and database software. The churchyard directories proved to be very popular, and even 12 years on, several copies of each are sold at cost per year. Within six months a second computer was bought for payroll and WP use, with grant aid from a national charity headed by Richard Branson, and ATC thus had "a breeding pair" of PCs!

Being Wales, wet weather was often a problem and the churchyard surveyors asked that during wet time they could be taught to use the computer for other purposes such as learning to use word-processing and accounts packages. Most of the team were "women returners" who had some time previously worked in an office, had left to raise a family, and now had an eye on the new technology with a view to easing back into office work: they had realised that computer familiarity was now a prerequisite to office employment.

ATC obliged by buying more computers (cheap IBM clones), and word spread among the community that IT training was available. Funding for the purchase of equipment was minimal: the Antur resorted to buying second-hand PCs, printers etc, but soon 20 computers were available.

A BBS (online bulletin board) was set up in 1987, to enable students and the wider community to access files and information about courses and other ATC activities. The analogue telecommunications technology then was only capable of handling incoming computer calls at 300 baud, and this caused problems with slow file transfer. The area was not due to be upgraded to a digital network for some five years, but luckily a TV company making a film about telecommunications in the UK interviewed the manager, who complained bitterly about being held back in this way. Within one month of the broadcast the area was upgraded to full digital status!

ATC also worked with the small businesses that were moving in to the restored sawmill which was their headquarters: a jeweller, stained glass makers, tandem manufacturer, furniture maker, and even the local sub-post office were all trainees at some time, and the resulting familiarity with IT has helped their small businesses grow. An early questions was "what will you do when everybody is trained?", but IT&T always throws up new software and hardware, and it has been found that an update at least yearly is of major benefit to most isolated users. There was also a children's computer club on Friday after school, when the local primary school children (20 or so) walked across the field to the Mill and enjoyed themselves thoroughly! It was rumoured that any new piece of software was given to the club to try out first! In fact the High School noticed a marked difference in children from Llangedwyn: they could use a mouse, diskdrives and software, and were way ahead of intake from other primary schools. About that time the head teachers from all the local primary schools undertook a training course at ATC, so the advantage was soon lost!

At first ATC used self-training software, but eventually a local tutor was employed on an as-needed basis to take evening classes and develop further courses, for ATC and for other groups such as the Agricultural Training Board who were helping farmers to develop and diversify using IT. Staff underwent training tutorials and become trainers themselves. The UK government decided that job creation was no longer a priority in 1988, and ATC took the decision to become a full time training provider. A contract was won with the Training & Enterprise Council to train up to 36 unemployed adults to use the new technologies, and even more investment was made in hardware and software, office furnishings etc., this time funded by the TEC contract.

A condition of the contract was to follow up trainees after they finished the course, to see whether their chances of obtaining work had been improved. It was found that, while many of the ex-trainees had obtained work, the majority were commuting to the nearest cities (100 miles or so) or had even moved away to be near sources of work. Either of these outcomes went directly against the mission of ATC, which was to create a vibrant local community, not a dormitory area.

At that point, a decision had to made by ATC: to continue "training for export" or to close the operation down. But a third option presented itself: in May 1990 the national press carried an article about "telecommuting" and "telework", new terms to ATC, and after some discussion it was agreed to attempt to find IT work from afar which could be undertaken locally by ex-trainees. Indeed, some small data inputting tasks were undertaken for special interest groups such as archaeologists and historians. To develop this further, an article was written and published in the community newspaper about the proposal, to set up an ATC "telebureau".

This article was read by an in-comer to the area who had been involved in IT since the 1950s, and was at that time a consultant to ICL, the UK-based computer giant (since taken over by a Japanese company). His consultancy involved fourth-generation language programming, and ICL had a need for large amounts of text to be turned into electronic format in order that purchasers of ICL's 4GL systems would have all relevant historic data at their fingertips, in a format very similar to the World Wide Web now, with hot links etc. Clients such as the Dept. of Social Services needed instant access to all court rulings relevant to a particular claim, for instance, to decide whether to contest a claim in court.

Another ICL client was the Trading Standards Authority, who had roomfuls of documents dating back to the 1920s, relating to measuring instruments for fuels, foods, drinks, indeed anything sold by measure, to make sure that these instruments were properly calibrated. The TSA wished for instant access to all previous documentation, and a desktop ICL with appropriate searching and 4GL linked software was ideal. One requirement of this contract was that documents were "scanned" and the resulting images converted back to text by OCR software, in order to keep prices down. The local county council bought the necessary scanner and software, and even a fast (for those days) 486 computer to handle the scanning activities. The text then had to be reformatted and moved to an agreed layout.

There was still a huge and ever-growing demand for training however, and ATC opened two new training and business support telecentres, in Llanfyllin and Welshpool, two nearby market towns. Both of these telecentres eventually became independent of ATC, the one at Llanfyllin (a tiny market town) closed down when all the services it could offer were offered by other businesses in town (it was considered unfair practice to undercut existing businesses) - a victim of its own success in fact. The Welshpool telecentre is still going strong, Welshpool being much larger there is plenty of room for competition!

All this IT activity in a very rural area began to attract media attention, and features on ATC appeared in local and national newspapers (there is a large cuttings book), on the radio and TV, and this caught the eye of Alan Denbigh, the telecottage officer of ACRE, Action for Communities in Rural England.

The manager of the telebureau was invited to speak at an ACRE seminar sponsored by British Telecom in May 1991, called Telecottages Today. Another of the speakers, Henning Albrechtsen from Telecottages International, met and talked with the manager, and was invited to Wales to see the telebureau and nascent "telecottage" projects in other parts of Wales. Henning was the founding father of the movement, having established the first telecottage in the world at Vemdalen, Sweden, in the early 1980s. His visit to Wales was huge success, wherever he stopped a fire was kindled and by the time he returned to Germany it had been agreed to call a meeting of Welsh projects with a view to founding a new, "national" organisation, to be called TeleCottages Wales (TCW).

The Formation of Telecottages Wales

One of the calls Henning made was to the Welsh Development Agency, a quasi-autonomous non-governmental agency, who were invited to join TCW with observer status. The WDA felt confident enough about TCW, now registered as an educational and promotional Charity, to offer a substantial unconditional grant, and TCW decided to use the grant to employ a development officer, answerable to the voluntary committee of TCW.

The funding allowed the luxury of a national launch, and this took place at the Royal Welsh Agricultural Show, a yearly event attended by 700,000 or so visitors from all over Wales, in July 1992. It was followed the next week by a Welsh launch, at the National Eisteddfod. A regular newspaper was published, a telecottage guide to Wales was

produced, and a number of interviews with the manager took place on radio, TV and in the press.

One of the first tasks the manager undertook was to seek further funding, and local authorities and support agencies were approached, in addition to a number of grant-giving foundations. Money thus raised was utilised in a kind of "roadshow", whereby the management committee met at a different telecottage or other community venue each quarter: the morning meeting would be followed by an open meeting, which members of the local public were invited to attend, to hear presentations about the vital role of the telecottage as Wales moved towards the Information Society.

The network of telecottages and telecentres grew rapidly, encouraged by this support mechanism. When TCW came into existence there were under 20 telecottages, within two years this had grown to over 50, and other schemes such as Estyn Community Buildings helped encourage the network to grow even

further. Some centres were privately owned, although the vast majority were community-led, and received funding from government or semi-government agencies. For instance, the SIMTRA (Scheme for the Introduction of Modern Technology to Remote Areas) in Dyfed is sponsored by the education department of the local council, and two telecentres in Powys designed specifically to help people with learning disabilities use computers are funded by Social Services.

TCW has recently made moves to become a "virtual organization" and uses the World Wide Web to provide much of its information, provide discussion forums etc. Its URL is http://www.telecottages.org.

A number of day conferences were organised by TCW, the most successful being the "Marketing Day" in April 1994, with guest speakers from England and Eire. The day soon established that there was a desperate need for a marketing system for teleworkers: like any craft business, no matter how good the product the business would fail if the marketing was inadequate. TCW was asked by its membership to find ways to fund a marketing arm, and it was agreed to examine European Union funding under the Telematics Programme to develop this further. This new project rather took over the working day of the development officer, but although the first bid for EU funding was unsuccessful, the subsequent bid won through, and TeleMart was born. It began work officially on January 2nd 1996, and the Partners were Greece, Sweden, France, Canada (via an Information Exchange programme), Wales and Eire (who subsequently dropped out). The project management was undertaken by Sweden, although the unannounced departure of the manager necessitated a rapid switch of management to Onyx Internet Ltd., an ISP in the north of England.

TeleMart - Marketing for Teleworkers

TeleMart is based around the provision of a Website, where telework brokers can be seen and contacted by prospective clients. Teleworkers can also access the site, although their activities are limited to marketing themselves in a closed area where brokers may see their CVs and service listings. Quality issues loom large with the brokers - if they cannot assure quality, clients will not return for more work, and new clients will have no testimonials to judge service quality. Other factors such as security, public liability, and contractual arrangements play an important part in behind-the-scenes activities of TeleMart.

Although initially a two-year project, TeleMart has been offered an extension by the European Commission, to develop and market the service even further. Whether TCW continues its Partner role in TeleMart remains to be seen, as there is very little funding for cashflow left in the host Charity: the development officer moved to managing TeleMart full time, and thus TCW has been rather neglected since January 1996. However, the Welsh Office has offered to support TCW, and although the mechanisms for this are unclear, it does seem that TCW will have a continuing existence into the millennium.

Appendix One - Wales

WALES. Part of the United Kingdom of Great Britain and Northern Ireland, forming administratively a part of England and occupying a broad peninsula on the W side of the island of Great Britain. Wales includes also the island of Anglesey, which is separated from the mainland by the narrow Menai Strait. Wales is bounded on the N by the Irish Sea; on the E by the English counties of Cheshire, Shropshire, Hereford and Worcester, and Gloucester; on the S by Bristol Channel; and on the W by Saint George's Channel and Cardigan Bay. The maximum N-S extent of the Welsh mainland is about 220 km (about 137 mi); in an E-W direction the distance varies between 60 and 155 km (36 and 96 mi). The total area of Wales is 20,768 sq km (8019 sq mi).

Government. Wales is governed as an integral part of England. The secretary of state for Wales is responsible for matters relating specifically to Wales.

Land and Resources. Wales has an irregular coastline with many bays, the largest of which is Cardigan Bay. Except for narrow, low-lying coastal regions, mainly in the S and W, Wales is almost entirely mountainous. The principal range is the Cambrian Mts., which extend N and S through central Wales. Other major highland areas are the Brecon Beacons in the SE and the Snowdon massif, in the NW, which reaches an elevation of 1085 m (3560 ft), the greatest in England and Wales. The Dee R., which rises in Bala Lake, the largest natural lake in Wales, and flows through N Wales and England, is the principal river. In the S numerous rivers flow through steep valleys, including the Usk, Wye, Teifi, and Towy.

Climate. The climate of Wales, like that of England, is mild and moist. The average daily temperature in July is 15.6E C (60E F), and in January it is 5.6E C (42E F). Annual rainfall varies with altitude, ranging from about 762 mm (about 30 in) in certain coastal regions to more than 2540 mm (more than 100 in) in the Snowdon massif.

Natural Resources. Coal is the most valuable mineral resource of Wales; deposits are located mainly in the S and NE. Some high-grade anthracite is found, but output consists principally of bituminous coal. Slate and limestone are also commercially important, and limited amounts of manganese, gold, lead, uranium, copper, zinc, and fireclays are also found. Much of the soil of Wales is of infertile rocky or leached types. The most fertile soils are in the SE and in a few coastal areas. Much of the electricity generated by the country's large water-power resources (and indeed the water itself) is exported to England, a fact which meets with much disapproval from Welsh nationalists.

Population. The people of Wales, as those of Great Britain in general, are descendants of various stocks, including Celts, Scandinavians, and Romans. Because the land is generally poor and because of the presence of coal and mineral ores, Wales has developed a predominantly industrial society.

Population. According to preliminary 1991 census data, the population of Wales was 2,798,200. The population density was approximately 135 persons per sq km (348 per sq mi). About three-quarters of the population is concentrated in the mining centres in the S.

Principal Cities. The major cities of Wales are Cardiff (pop., 1991 prelim., 272,600), the capital, principal seaport, and shipbuilding centre; Swansea (182,100), a seaport and centre of the tin-plate industry; Newport (129,900), an industrial centre; and Rhondda (76,300), a centre of the Welsh coal-mining region.

Political Divisions. A reorganisation of local government in Wales was made effective in 1974, when the former counties and boroughs were abolished and replaced by eight new counties. Recently however a re-reorganisation has brought back the old counties, and a referendum in 1997 took the decision that Wales would have its own National Assembly, the first step to the devolution of power from London to Wales.

Religion. The Church of England was the established church of Wales and England until 1920, when it was disestablished in Wales. The Welsh branch of the Church of England is the faith of about 110,000 Welsh. The next largest religious body, with about 72,800 adherents, is the Calvinistic Methodist church, known as the Presbyterian Church of Wales.

Language. Both English and Welsh are official languages. English is spoken by most of the population. A small percentage of the people speak Welsh only; more than one-quarter of the population speak both Welsh and English.

Culture. Somewhat isolated by a rugged, mountainous terrain, the Welsh have retained more of the culture of their Celtic forebears than have either the Scots or the English. A strong feeling of national solidarity exists in Wales, and a nationalist revival has received some political support, to the point that representatives of the Welsh Nationalist party serve in the House of Commons in London. The Welsh are well known for their love of singing, and their hymns and folk songs are widely known throughout the world. Music plays a large part in the annual festival, the Royal National Eisteddfod, at which poetry reading and Welsh folk arts are also featured. The festival is held each year in a different locality, and Welsh natives and those of Welsh descent from all over the world attend. The International Music Eisteddfod is also held annually in Llangollen in North Wales (all welcome!).

Economy. Mining is a chief economic activity of Wales and was until recently one of the largest single sources of employment. The economy is largely integrated at present into that of Great Britain.

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Telecentre Case Study - Sénégal MACTAR SECK seck@sonatel.senet.net

L e Sénégal a acquis une expérience depuis 1992 dans la mise en place des télécentres privés indépendants en s'appuyant sur l'initiative privée. Cependant ces centres ne fournissent actuellement que des services de base; téléphone et télécopie.

Contexte National

Géographie

Le Sénégal est situé à l'extrême ouest du continent africain avec une façade maritime de 531 Km sur l'Atlantique Nord; il entretient 2640 Km de frontières avec la Gambie, la Guinée, la Guinée Bissau, le Mali et la Mauritanie. La superficie du Sénégal est de 196190 Km² offrant un relief généralement plat, composé en grande partie de savanes avec une variation sensible du Nord (semi-désertique) au Sud (semi-forestier).

Ce territoire est subdivisé en 10 Régions comptant chacune 3 Départements.

Population

Au 31/12/1996 le Sénégal comptait environ 8.446.000 habitants dont la grande majorité est jeune: 45% de la population du Sénégal a moins de 15 ans et seuls 3% de celle-ci ont plus de 65%. La croissance démographique est de l'ordre de 3% par an et 70% de la population vivent dans les zones rurales.

Outre le Français qui est la langue officielle de travail (Administration, Grandes entreprises, Relations internationales, etc.), six (6) langues nationales y sont reconnues à côté d'un grand nombre de dialectes locaux.

Le taux de scolarisation y est faible (55% de la population en âge de scolarisation) et déséquilibré; 37% des garçons sont scolarisés contre 18% des filles.

L'espérance de vie y est de 57,16 années en moyenne dont 55,65 années pour les hommes et 58,71 années pour les femmes.

Gouvernance

Le Sénégal est une République dotée d'une constitution depuis le 3 Mars 1963 (révisée en 1991) et respectueuse de la séparation des trois pouvoirs que sont l'Exécutif, le Législatif et le Judiciaire.

Depuis le 1er Janvier 1997, les collectivités locales que sont les Conseils régionaux, les Conseils municipaux et les Conseils ruraux ont acquis le plein exercice de leur responsabilité de gestion, les structures déconcentrées de l'Etat (Gouvernances, Préfectures et Sous-préfectures) veillant à ce que cette responsabilité s'exerce en conformité avec les lois et les orientations du pays.

Le régime de la démocratie y est largement pratiqué; des partis politiques y sont librement créés conformément aux lois et se lancent dans la conquête du pouvoir par les urnes.

Depuis la fin des années 70, différents programmes et plans de stabilisation, de redressement et d'ajustement ont été mis en oeuvre pour juguler la crise économique que connaît le pays, mais ces plans ont eu des résultats inégaux. Au cours de la dernière décennie, la tendance était au recul du PIB par tête d'habitant avec une agriculture peu performante malgré les nombreuses réformes ainsi qu'un coût élevé des facteurs de production et une étroitesse du marché local qui empêchent, entre autres, la production industrielle de prendre un envol.

Sur le plan social, les dépenses de santé ont diminué durant les deux dernières décennies de 20 pour cent. Le chômage s'est aggravé avec un nombre croissant de suppression d'emplois depuis 1986. D'après l'enquête sur les priorités, trente pour cent des ménages sénégalais vivent en dessous du seuil de pauvreté. Celle-ci touche d'abord les enfants, ensuite les ménages dont le chef est au chômage, les femmes et les jeunes en quête d'emplois.

Les orientations du Plan national de lutte contre la pauvreté mettent l'accent sur la création de conditions propices pour renouer avec une croissance répartie de façon moins inégalitaire et assurer une meilleure couverture des besoins essentiels des populations.

Situation du Réseau de Télécommunication

En effet l'opérateur national de télécommunications, la SONATEL, a mis en place un des réseaux de télécommunications les plus modernes basé sur l'utilisation de la technologie numérique permettant d'offrir aux usagers de nouveaux services évolutifs, notamment . Parallèlement la densité téléphonique est passé de 0,37 à 1 LP pour 100 habitants.

La téléphonie rurale s'est considérablement améliorée en quantité et en qualité. Toutes les communautés rurales auront accès au service téléphonique au plus tard en 1999.

Plus de 2200 lignes ont été raccordées en zones rurales (télécentre, pointphones, lignes privées, etc.) en 1996.

Historiques des télécentres privés

Les télécentres sont nés des initiatives de la Sonatel de faciliter l'accès au téléphone au grand public qui, dans le cadre des activités quotidiennes en éprouvait grandement le besoin.

Pour répondre aux exigences de la mission de service public avec comme objectif de mettre le téléphone à moins de 5 Km de tout citoyen sénégalais, depuis 1992, la Sonatel accepte l'exploitation à travers son réseau de télécentres privés.

Ces centres sont fréquentés par les occasionnels et par ceux dont les ressources et le volume de communication ne permettent ni ne nécessitent la souscription à domicile d'un abonnement individuel .

Des règles précises établies par la Sonatel, réglementent l'ouverture de ces télécentres jusqu'en 1996.

Depuis 1995, les télécentres ont été libéralisés. Toute personne peut être propriétaire d'un télécentre à la seule condition de verser un abonnement fixé par ligne et de posséder une carte de commerçant.

Description des services

Les services et activités de télécommunications disponibles dans un télécentre privé sont principalement :

- le service téléphonique qui y est prépondérant
- les cabines fax ou bureau fax
- les services minitel,
- la vente de cartes téléphoniques
- certains nouveaux services et produits à valeur ajoutée
 - accés aux bases d'informations locales et internationales,
 - photocopieurs
 - micro-ordinateurs équipés de logiciels de traitement de texte.
 - etc.

Conditions d'exploitation des télécentres privés

Description

Un télécentre privé est un local objet d'une occupation privative et spécialement aménagé pour vendre des services de télécommunications sous réserve de l'agrément de la SONATEL.

Zone de couverture

C'est le rayon autour du télécentre dans lequel il ne sera pas permis l'installation d'un autre télécentre. Ce rayon sera égal ou supérieur à cent (100) mètres dans les centres villes de Dakar. Pour les autres villes ou localités elle est laissée à l'appréciation des services compétents de la SONATEL.

Aménagement du Télécentre

Le lieu d'implantation d'un télécentre est déterminé d'un commun accord entre la SONATEL et l'exploitant. L'exploitant doit être locataire ou propriétaire du local dont l'aménagement obéit à toutes les normes d'exploitation d'un télécentre de la Sonatel.

Le local qui abrite le télécentre doit avoir une surface minimum de 16 mètres carrés (16 m2) et satisfaire aux aménagement suivants :

- Division de la salle en box bien cloisonnés afin de préserver la confidentialité des communications et d'éviter les interférences dues aux bruits des autres clients et de la rue. Chaque box doit être équipé d'une tablette pour le bureau et d'un fauteuil ou d'une chaise pour le client

- Un comptoir et/ou un bureau pour le gérant à coté duquel seront installés les appareils de taxation.

Accès au télécentre

L'exploitant met le télécentre privé à la disposition du public. Il s'engage à en maintenir l'accès libre et à afficher la notice de ses prix et celle fournie par la Sonatel.

Abonnement

L'exploitant verse, au moment de la souscription du présent contrat, un dépôt de garantie non producteur d'intérêt d'un montant de 500 000 CFA par ligne. Après résiliation du contrat, le dépôt de garantie lui est remboursé sous réserve du paiement des sommes dues à la Sonatel. La taxe de raccordement de 67 200 CFA par ligne d'exploitation.

La Sonatel assure la relève des dérangements dans les meilleurs délai. Elle contrôle les modalités d'exploitation du télécentre et la régularité des prix.

Acquisition des terminaux

Lors de l'abonnement la Sonatel installe des postes simples. Les autres appareils (télécopieurs, systèmes de taxation, ...) sont vendus ou loués. L'exploitant peut les acheter auprès des vendeurs agréés.

Taxation des communications

L'exploitant facture et recouvre auprès des clients les sommes correspondantes aux tarifs en vigueur, majorées de la surtaxe dont la limite maximale est fixée à 75% par taxe de base.

Ce prix paraît raisonnable compte tenu du plus accordé à la clientèle finale et des charges supportées par l'exploitant du télécentre.

Analyse du Marché

L'environnement socio-économique et culturel est favorable à l'exploitation des télécentres privés. Cette situation s'explique par la forte demande de téléphone publique et le désir des utilisateurs potentiels de pouvoir joindre à tout moment leurs correspondants.

Ces télécentres permettent de satisfaire au besoin de la communication téléphonique occasionnelle à partir de certains lieux de travil, de visites, de loisirs, etc.

Toute personne ayant les moyens de payer la caution et les frais d'installation peut être considérée comme un client potentiel. La clientèle est nombreuse et hétérogène :

- des particuliers
- des représentants d'association

- des commerçants
- des artisans
- des groupement d'intérêt economique.
- Etc.

La densité de la répartition varie en fonction des zones. Il suffit de déposer une demande manuscrite adressée au Directeur Général de la Sonatel, une attestation d'inscription au registre de commerce, un casier judiciaire datant de moins de trois mois, une copie du paiement de la taxe du dossier.

L'exploitation d'un télécentre génère en moyenne des revenu mensuel de 100 000 à 200 000 F CFA par ligne.

Mois	Parc de Télécentres		Aois Parc de Télécentres		Parc de lig	nes Télécentr	es
	Dakar	Régions	Total	Dakar	Région	Total	
Janvier	344			547			
Février	351	228	579	706	397	1103	
Mars	360			563			
Avril	370	274	644	614	451	1065	
Mai	404			601			
Juin	436	343	779	703	512	1215	
Juillet	476			691			
Août	522	416	938	796	593	1389	
Septembre	556			672			
Octobre	613	446	1059	929	699	1628	
Novembre	656		<u> </u>	905			
Décembre	727	494	1221	1099	754	53	

Situation des Télécentres Privés Dakar et Régions

<u>1995</u>

Mois	Parc de Télécentres		Parc de lignes Télécentres		es	
	Dakar	Régions	Total	Dakar	Région	Total
Janvier	799			1079		
Février	870	539	1409	1255	791	2046
Mars	901			1268		
Avril	974	568	1542	1438	848	2286
Mai	1011			1403		
Juin	1059	589	1648	1575	980	2555
Juillet	1104			1482		
Août	1134	722	1856	1714	1048	2762
Septembre	1195			1671		
Octobre	1258	794	2052	1906	1152	3058
Novembre	1319			1864		
Décembre	1380	873	2253	2061	1267	3328

Situation Demandes Agréments CA en 1996 à Dakar NB : 1 dollar canadien = 455 FCFA

Mois	Nombre de Demandes reçu e s	Demandes Agrées	Facturation mensuelle en Milliers de Frs CFA	Parc Lignes
Janvier	137	48	375 080	1971
Février	101	55	417 560	2201
Mars	145	44	386 019	2154
Avril	105	50	441 171	2297
Mai	109	22	416 795	2245
Juin	131	97	460 570	2470
Juillet	163	105	414 691	2392
Août	146	111	510 265	2612
Septembre	145	88	465 236	2624
Octobre	158	145	498 722	2912
Novembre	120	117	474 570	2846
Décembre	139	129	538 539	3204
Totaux	1599	1011	5 399 218	

En 1997, le parc en lignes télécentres est de plus de 4000 lignes à Dakar.

On dénombrait en 1996 plus de 1 000 télécentres franchisés à Dakar et ses environs, qui offraient généralement des services de téléphonie et de télécopie et, depuis peu également, des services Internet. Les recettes annuelles moyennes totales se sont élevées à 5 544 dollars US. Sur ce total, le franchisé a versé 3 960 dollars à Sonatel et a gardé le reste (1 584 dollars ou 40%). Dans ce cas, le franchisé est autorisé à ajouter de 50 francs (0,09 dollar) (tarif de Sonatel) à un maximum de 120 francs CFA maximum par unité d'appel pour les communications locales, chiffre auquel il convient d'ajouter les recettes provenant des appels entrants, qui ne sont pas prises en compte ici.

Bimestre	Parc en lignes	rc en lignes 1997 p/r 1996 (pour la même période Montant Facture CFA		1997 p/r 1996 (pour la même période)
Janvier+ Février	5976	+ 57,68%	1.109.971.910	+50,59%
Mars + Avril	6176	+45,23%	1.194.902.238	+47,54%
Mai + Juin	6371	+38,14%	1.096.395.890	+26,59%

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Evaluation Financière

Le succès extraordinaire de ces télécentres privés est une source importante d'enseignements dont l'exploitation pourrait être utile dans la stratégie de dissémination des services des technologies de l'information et de la communication dans le développement des accès communautaires.

Les télécentres ont permis de créer plus de **4000** emplois entre 1992 et 1995 et sont très largement disponibles en milieu rural; leur contribution au PIB du Sénégal passe de 0.24% en 1994 à 0.37% en 1995 pendant que leur chiffre d'affaires passait de 5.523 millions FCFA à 9.226 millions FCFA. Ce qui constitue une performance qu'il convient d'encourager.

La Sonatel, riche de cette expérience, a mis en oeuvre, en milieu rural exclusivement, des cabines d'intérêt local (CIL) qui sont aussi des télécentres privés à ceci près qu'il est demandé aux communautés villageoises de construire elles-mêmes la "case de télécommunication" et de choisir parmi elles un gérant. La Sonatel installe sans frais un pointphone (Appareil téléphonique doté d'un mécanisme de taxation et de collecte de monnaie). Le gérant devient un abonné normal et exploite le service pour son propre compte tout en étant moralement responsable de la disponibilité du service aux yeux de la communauté à laquelle il appartient.

Conclusion

Les télécentres possèdent d'énormes potentialités au regard des besoins présents des usagers, du taux très faible d'équipements des ménages et surtout de la baisse de leur pouvoir d'achat qui rend cet outil très économique.

Les clés du succès de cette application résident dans le fait que:

- 1. le service correspond à un besoin réel
- 2. le cadre d'exploitation est clair et transparent
- 3. le mode de taxation et de recouvrement tient compte des possibilités et de la culture des usagers
- 4. les opérateurs privés ont pris des risques financiers ou moraux en investissant ou en s'engageant au nom de la communauté à laquelle ils appartiennent.
- 5. le promoteur (Sonatel) et le client (l'exploitant qui est aussi le médiateur) y trouvent chacun son compte: près de 4 milliards de FCFA de chiffre d'affaires pour la Sonatel et plus de 2,5 Milliards pour les exploitants en 1994.

A en juger par la demande de franchises (1 599 demandes en 1996), il s'agit d'une affaire intéressante pour Sonatel (du moins à Dakar, où le coût par ligne est faible) ainsi que pour le franchisé. Les recettes tirées de télécentres similaires dans des zones rurales et isolées ne correspondront peut-être pas exactement à celles de télécentres situés dans la capitale et ses environs. Toutefois, les statistiques fournies par Dakar donnent une indication de la somme que les habitants d'un pays dont le PIB moyen par habitant s'élève à 479 dollars EU sont disposés à dépenser pour l'utilisation de services de télécommunication publics.

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CASE HISTORIES FROM THE GLOBAL TELECENTRE MOVEMENT

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Telecentre Case Study - Sweden

Telecentre Case Study - Sweden LENNARTH BERNHARDSON lennarth@metis.se

Telecentre "Telecottage in Faergelanda", Sweden

Late in 1987 the idea of building a telecentre in Faergelanda first took form. The adult education school in Faergelanda had started training in using computers. They took the initiative of organizing a meeting with people from local regional governments and some organizations active in rural development.

The result of the meeting was a decision to start a telecottage foundation with 5 founders. These founders were local government in Faergelanda, "DalslandscFolkhogskola"-the regional adult education school, "Bofors Plast" (presently Lear Corp.) which is the biggest company in Faergelanda, the regional health care service and "Hushallningssallskapet"-an organization working with rural development.

These founders, who still take an active part as members of the Board, assembled share capital of \$130.000 (CDN) to launch the telecottage. After this initial investment, the telecottage would be expected to generate it's own revenues by "doing business". Some of the money was also contributed from the founders and some was from "Telia", the Swedish telephone provider and from "Hela Sverige ska leva".

"Hela Sverige ska leva" (Popular Movement Council for Rural Area Development in Sweden) was an initiative from the Swedish Parliament. The purpose was to stimulate local groups to work with rural development. "Hushallningssallskapet" joined the project because of the possibility of using information technology in rural development. All the founders had their own reasons for participation in the creation of the telecentre.

For example, the local government wanted to create jobs in the region, the health care administration's purpose was education of the staff and the industry, "Bofors Plast", saw the possibility to recruit qualified staff.

The Telecottage in Faergelanda was one of the first telecentres in Sweden. In those days I was working as a consultant to "Dalslands Folkhogskola" with computer education for adults, employees in the regional government administration. As a consequence, I had the opportunity to offer my "vision" for a telecentre in Faergelanda and how the premises should be designed.

My vision of a telecentre in Faergelanda was a centre working with education and telecommunications. The communications should be used for EDI and support to distance education. The vision contained also a small house, a cottage, with "high technology" inside. "Dalslands Folkhogskola", the adult education school could provide a building available for rent, so the board of the foundation could start the telecentre and fill it up with computers, servers and other equipment.

The foundation was started in late 1989. The main objectives were to:

- Educate staff for the industry and the local government,

- Supply telecommunications to small and medium enterprises, for example fax and terminal emulation,

- Give guidance too local inhabitants in Faergelanda,
- Search for distance commissions to increase the work opportunities.

The first thing to do was to employ a secretary for the administrative work. After that, the Board purchased some pieces of furniture. Then they employed the first Manager for the telecottage. His background was "CAD-CAM" so he did spend the most of the founding capital on equipment for CAD-CAM. The reason was to create courses in how to use CAD-CAD and only CAD-CAM. After about 6 months the funds were gone. The Board began its search for a new manager with "wider visions".

In Spring of 1990, I came to be employed as the Manager of the telecentre. The main object for me was to find new areas to work with. I believed that office-people could be a large target group for education because they looked ahead towards a major "revolution" in the ways to use a computer.

Another main objective for me was to use computers for bringing people together in electronic conferences. So I started the first Bulletin Board System in the region. Young people used it mostly to translfer files but the service gave us a lot of experience in how to manage such a system.

To bring the economy on the right side of zero I was looking for all kinds of distance-work. Together with some other Telecottages in Sweden we received the commission, from the Swedish Tax-department, to register a lot of personnel-acts to be converted from paper to electronic media.

When we started that project, in 1991, there were 2 employees in the telecentre but in the next two years we became 15! So many people and so much paper forced us to rent more space for our office. We rented some rooms from the local school to be used by those working with registration. The start of the job was to educate the newly employed. This course was paid by the local employment agency.

To carry out this big first course we had to use freelance teachers. I thought this was a great idea, to use freelance consultants and teachers. So that is still the way. We used free-lance consultants instead of employees. Naturally we also have employees, for the moment there are 5 persons working full time at the telecentre.

In 1993 we finished the job with approximately 2,000,000 acts registered. Then in 1995 we offered a new registration-work on distance, this time for the Royal Swedish Library in Stockholm. The job was to convert library-cards to a database. The database is now available on the address <u>http://www.libris.kb.se/english/quick.search.html</u>. The work is now finished.

Today there is 1 Manager, 2 computer-technicians, 1 education-administrator and 1 information-administrator working full time in the telecentre. We also use 3-5 freelance teachers for both local and distance education.

The most sought-after service in the beginning was fax-services. A lot of small enterprises used our fax machine because a fax was too expensive to purchase. The price for a fax was about \$6,000 (CAN). We tried to introduce e-mail, but it was too early. The owners of the local enterprises chose to get the fax in their hand. So when we received a fax for the company we called them by phone and they made a visit

in person to the telecentre. They could then write an answer directly and use our fax to send a reply.

One of the applications that we have created as a result is "fax from Web." This was used by businesses in their early use of information technology. They wanted to be published on the Internet but didn't have the ability to use e-mail. We then supported these users with a Web page that forms fields that are converted to a fax for the company.

Today we are building local area networks for companies and public agencies. We are building different kinds of systems with Windows NT, Novell and Unix servers on Ethernet with TCP/IP and IPX.

At the same time as we did the work for the Swedish Tax-department we discovered that there was a need for some kind of communication-system among the Telecottages in Sweden. We developed some small programs to our Bulletin Board System so it could be used as a conference-system with different kind of security for each user. The first Intranet for Telecentres in Sweden was ready to be used. In late 1994 we switched to a regular conference system. First Class is a Swedish idea and developed in Canada by Soft Arc Inc. We are now using the latest versions of First Class, Exchange and Lotus Notes combined with our own programs to create Intranet solutions.

When we first wanted to lease a line for Internet use, there were difficulties getting cables with bandwidth over 64 kbs. Now we are using a 2 mbs leased line and have started to think of when we will have to increase our bandwidth to 10 mbs. Through this leased line, we connect our local government and all the local schools on the Internet. Companies in our Web-hotel and a lot of users nation-wide also use it to connect to their Intranets and groupware.

Along with being a provider of Web hotel we also host Web farming. Together with mail conversions, we support more than 3,000 users all over Sweden. We are server managers for systems more than 500 km away from Faergelanda which we are visiting every day-electronically.

In 1994 we purchased video-conference equipment. The purpose was project meetings, conferences and distance education. The use of the technique has given us a lot of experience in how to combine different kinds of systems to alleviate distance. We believe that it is necessary to adapt the system to the students instead of adapting the students to the technology.

When we combined the experience of distance education with popular adult education, we created courses with the purpose of providing knowledge in how to use conference systems. The participants are from all over Sweden and the purpose of the system is to act as an intermediary of experience in rural development. The system is called "Bygde.Net" – The net for rural areas. The technologies we use include First Class, Internet and Intranet. All participants are educated in using these systems and have their own courses "at home" with support through the system during the evening lessons. A downloadable document (Word for Windows) can be found at <u>http://www.bygde.net/bnetenglish.doc</u>.

The telecentre is now modelling for a large project called "Regional Information Highway". The aims of the project are development and expansion of the digital infrastructure. 12 municipalities in the west of Sweden should be connecting to each other and the Internet with 2-10 megabit leased lines. At "the end" of each cable they are going to create a local telecentre.

Each of these Tele- and Information-centres shall have equipment to fill the "least common denominator". The minimum level includes:

- Computers
- Video-conference systems
- Educational videos
- A small café
- An employed manager
- Web-server
- Software for e-mail, electronic conferences etc.

And they shall have the knowledge to use the equipment and the software!

They shall also create business ideas to become commercially financed in the future. The local ideas are not allowed to compete with existing local enterprises. Instead they shall co-operate and in that way create a larger amount of services for the local area. They shall also co-operate among the 12 telecentres. In that way the region can get a very large range of IT-services among all the participating telecentres.

The Telecottage in Faergelanda is naturally the local Information Centre in the project. Since the Telecottage in Faergelanda started, it has reached an advanced position when it comes to modern information technology and we have today resources and competence to form a natural junction through Sweden's "IT-Highway."

The Telecottage in Faergelanda of today is a centre of technology and is a part of the organisation, Telecottages in Sweden, TC-S, which is a nation-wide organisation formed by a number of IT-companies all around the country.

"Service is a natural complement to our business". That means that we have a good organisation for support, consulting and personal updating, both when using technology and in knowledge and skills. Furthermore we have the possibility to help with temporary peaks of production and other temporary solutions for projects. For our geographically close customers, we function as a local information centre, where possibilities for consulting and support always are available. To those who are working at a long distance, we give with our sources the same possibilities to immediate service via electronic handshakes and solutions.

The Telecottage in Faergelanda has made a great impact on the local enterprises capabilities to use and understand information technology. Today there are 7 enterprises working with computers and information technology in Faergelanda as a direct spin-off effect of the Telecottage.

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Telecentre Case Study - Mamelodi, South Africa <u>NEBO LEGOABE nlegoabe@csir.co.za</u>

Mamelodi Community Information Services (MACIS)

Introduction

In 1986 the Mamelodi Youth Organisation came with an idea of establishing a community information service and it was stopped due to the political situation that was prevailing at that time.

The Process of Establishing a Community Based Information Service (CBIS) in Mamelodi

CBIS is a service that provides information to members of the community about information resources found in and around their community.

CBIS is concerned with linking information needs in the community with information resources resources that will provide survival information, like information on health, housing, education, government services and plans, employment, etc., and with citizen action information, which is needed for effective participation in social, political and economic processes. Thus the service aims at providing information on all aspects of life to community members to enable/empower them to deal with the day to day problem solving and generally, to improve their quality of life.

Having realised the problems faced by disadvantaged communities in participating in the South African

Information Society, and eventually the Global Information Society (GIS), the Mamelodi community saw the need to address the issues of information availability and the creation of an information society.

In order to participate in the GIS and the IS, people in Mamelodi need appropriate, accurate, relevant and reliable information to solve problems, make choices, know their rights and responsibilities and be better informed citizens so that their standard of life could be improved. To have that at the community level, there is a need for the people to develop, plan and implement a coordinated, centralised and organised CBIS in Mamelodi where information - oral, written, electronic, etc. on various levels of comprehension could be disseminated to residents.

Community Participation Process

The CSIR came with the concept of establishing a CBIS in Mamelodi in 1993. This idea was first discussed with some community leaders and they recommended that a workshop of community organisations be convened to explore the concept further.

A workshop was convened and delegates came from youth, women, entrepreneurs, political, education, health, churches, NO's, CBO's, government and other organisations. Because the idea was once initiated in 1986 by the Youth, it became simple for the workshop to accept the concept.

The workshop addressed issues relating to information access and delivery. As an introduction, the following were discussed:

- to explain and understand the concept of CBIS;
- to analyze a developing community;
- to identify issues affecting the lives of the people in such a community;
- to identify the kinds of information such a community would need; and to

look at the optimal form of disseminating information.

Some important issues that were also discussed at the workshop were why people need information , what kind of information exist and how accessible it is, what are the gaps regarding information resources and how can they be closed, what can be done to make sure that the community has access to the right information at the right time for better decision making, problem solving, better relations and what can be done to ensure that the community is empowered for development.

The discussions led to the recommendation of the establishment of a CBIS in Mamelodi. The workshop accepted the concept and CSIR provided technology equipment to pilot the project. The workshop also recommended that a special committee be elected to look at the establishment of a CBIS in Mamelodi - Mamelodi Community Information Services (MACIS).

The steering committee had to address and develop the legal status of MACIS and its constitution, the location of the project, appointment of the board of directors, business plan, the budget and the implementation plan.

The board of trustees was appointed and it was composed of the community - through its representative organisations, the local authority (library services) and the CSIR. The role of the community was to ensure that MACIS is people driven and addresses the needs of the community; the local authority provided logistical support in the form of accommodation and

financial resources; and the CSIR provided technology support and capacity building. The CSIR continue to provide technical support even after their pilot phase.

Because there were no independent existing structures, the committee approached the authorities of Mamelodi Town Council and the Pretoria Community Library to provide with accommodation. It was agreed that the project will be housed within the library, have working relationship with the library, but

have its independent identity and autonomy.

MACIS was launched on the 1st July 1995 as a pilot project for the CSIR. The government department of Arts, Culture, Science & Technology sent their representative Mr Peter Skosana to address the launch as a guest speaker. The pilot phase was for two years only and MACIS became fully autonomous as from 30th June 1997. The project is presently a Community Based Organisation registered under section 21 company act (Act 61 of 1973). The CSIR has donated all the technology equipment and the furniture that were used during the pilot study.

Application Development

MACIS has developed a Directory of Services available in MAMELODI (Hard copy), helping people with typing, fax, photocopying and e-mail facilities. We also organise and conduct workshops between community leaders, organisations, the government and the community to improve communication system amongst them.

Infrastructure

MACIS technology equipment are not connected to the telephone line. The CSIR has invented a Wireless Community Networks called Community Information Delivery System(CIDS). It is a semi-urban and rural type community network which provides on-line, high speed access to local nodes and to the Internet. The current system in Pretoria area uses 2Mbps wireless networking. It is a cost effective way for schools to connect to the Uninet, for businesses to interconnect buildings in a campus type environment and for communities to inter-link clinics, training centres, small businesses and libraries.

Management Structure

MACIS structure is composed of the board of trustees and the executive committee who are volunteers from the community. Initially the CSIR seconded an information officer to run the MACIS project on behalf of the MACIS board from July 1995 to June 1996. At the beginning of July 1996 the board employed the project manager to coordinate the project. She is helped by two volunteers.

Staff Development

The CSIR Information officer trained the MACIS project manager on the following:

- information management;
- information and referral services;
- information facilitation and communication skills
- procedures for delivering a CBIS;
- interviewing technique to address the queries asked;
- the use and handling of computers and how different computer programs work;

- Internet and telecommunications techniques: training on how to use the Internet, including e-mail;

- techniques for interviewing organizations and individuals to be included in the directory;

- procedures for data gathering;

- database development and maintenance;
- needs analysis and interpretation;
- kiosk management and update; and
- networking processes and techniques.

Apart from the above training, the project manager was a community worker for more that 12 years, worked with people of different ages, has communication, counseling, problem solving skills and she was computer literate.

Some of the volunteers were trained from the centre and some of them came with a background of computer literacy. The project manager has trained them with most of the above so that they could cope with the situation and provide proper service to the users during her absence. MACIS provide to them as an incentive, a certificate of competence as reference to employers.

The team finds the work exciting because to them it is an ongoing learning process. The staff members help and educate users on how to access information from the Internet and the touch screen information kiosk. They provide the users with feedback forms to measure the success/impact and to evaluate the work that is done on a daily basis. A daily user statistic register is kept to help assess the effectiveness of the project as well as areas of information research and update.

Success stories

"Had it not been for MACIS staff presenting a directory of services to me, I would still be going up and down whenever I needed resources that could be of service to my day to day problems". This was a comment from Mrs Mageza who bought a directory of services available in Mamelodi. She finds it easy to consult telephonically from home and make appointments rather than visit resources without an appointment and be returned for a certain date.

Ms Moyo, a high school student, accessed information on insects and diseases. This helped and enabled her to obtain 80% mark in her examination. She knew about MACIS through a school presentation that was done by MACIS staff members. She further mentioned that the school encourages them to utilize the resources available in their community, mainly the information centres as information is a key to success.

MACIS has developed a community profile. Students, researchers, field workers, etc are happy with the establishment of the centre because it provides them with survival information. This profile is being updated regularly when new events emerge.

Through advertisement on pamphlets, leaflets, brochures, newspapers and radio presentations, MACIS has gained popularity and organizations like the Local South African Police Service and Traffic Department utilizes the centre to access information on the Mamelodi community organizations on the Internet, touch screen information kiosk and the directory (hard copy) to invite people to attend the community mass meetings. And it is at these types of meetings that MACIS find an opportunity to do presentations. The centre services about 50 people per day.

Workshops and conferences, with relevant themes based on the importance of information, are conducted to various organizations and groups of people in and around the community of Mamelodi. National, Provincial and Local representatives addressed the community at some of the workshops and conferences convened by MACIS. The purpose is to create a link between the government and the community.

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CASE HISTORIES FROM THE GLOBAL TELECENTRE MOVEMENT

IDRC Study/Acacia Initiative Prepared for IDRC by Richard P. Fuchs Futureworks, Inc. June 1998

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Analysis and Conclusion - Lessons for ACACIA?

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Analysis and Conclusion - Lessons for ACACIA? RICHARD FUCHS rfuchs@fastfwd.com

Our six (6) telecentre case studies describe initiatives which all arose in very different places, at different times and under very different circumstances. There was no apparent connection between one telecentre start-up and another. Yet, there are clear patterns which can be deduced among them all which can be identified, analyzed and understood.

Human Resources

Perhaps more than in any other area, the lessons from our telecentre case studies are nearly uniform when it comes to the primacy of *people* in both helping to make telecentres succeed and deriving benefits from the services they provide. In describing the overall legacy of the Welsh telecottages, Paddy Moindrot communicates the human resource impacts and benefits unmistakeably when he offered the following in our Discussion Forum:

"Firstly, our communities are computer literate. Young or old, able or disabled, they are not frightened of technology, and welcome the opportunity to learn more when needed."

For the telecentres that were located in rural areas, their services made an identifiable difference in the capacity of all the community institutions to learn how to innovate within the Information Society. This "diffusion effect" is clear. Community telecentres actually provide benefits to *people* in the entire community. They spread new capacity and skills to *people* in schools, health institutions, local government and community agencies.

For small business *people* the impacts are doubly beneficial. Not only do existing businesses experience the "diffusion effect" and come to adopt and apply information and network technology tools and

solutions more quickly, but new entrepreneurial opportunities also arise in areas such as desk-top publishing, training, translation and multi-media design, among others, which begin locally and grow regionally, nationally and even globally.

The *people* that work in a telecentre really serve as the facilitators of innovation and early adoption in geographic and social communities which would otherwise be late adopting and lagging in their approach to information and network technologies. In a recent web article entitled "Crossing the Chasm: Java Technology on the Move", Geoffrey Moore, among the world's leading technology marketing experts, is quoted as having argued that technology companies should "Ignore the Late Majority and the Laggards." Speaking before more than 14,000 people at the 1998 JavaOne conference, Geoffrey Moore was telling delegates that the late adopters and laggards take too long to make the adoption decision and should be left out of the marketing schemes of technology enterprises altogether.

The fact of the matter is that the communities in which most of our telecentres arose would have been *ignored* by both public and private policy and practice in terms of access to the tools of the Information Society. The new capacity which telecentres bring to *people* in their communities would not have otherwise occurred precisely because these geographically and socially remote communities have been ignored for a very long time. They are accustomed to adopting end of product-life-cycle technologies, products and services which never give them an advantage. They are almost always in a "catch-up" position.

Telecentres change that. But it is not the services which telecentres bring that makes the difference. It is the new capacities in *people* that they help to create. And there is a time when this new capacity becomes self-generating. Instead of being consigned to technological late adoption and lagging, telecentres transform the community's capacity to innovate. At a certain point in time the telecentre has helped to champion and create a sufficient number of new innovators and early adopters throughout the community. There are now innovators in the schools, in community agencies, in local government and in business whose confidence and capacity has been bolstered by the telecentre.

For ACACIA, as well as for others, the lesson in all of this is something they already know. Telecentres are one of the tools to help prevent African society from being *ignored* by the Information Society. And the fact that Africa has been largely left out of the information and network technology dynamo for so long creates an opportunity. Maybe, just maybe, the hegemonic monoculture which our Australian contributor, Ian Reeve, writes about, can be avoided and diverted. Maybe African society can offer a new pluralist definition to what the Information Society means. This will never happen unless the pattern of technological late adoption and lagging is changed. Telecentres help to do this. More telecentres help to do this more quickly!

In order for telecentres to succeed, the most important ingredient is the *people* that work in them. And our telecentre case studies offer clear indications as to what kinds of *people* they are. Without exception, the telecentre *people* have good community skills, like to work with others, are aggressive about bringing the mission of the telecentre to all segments of the community and they are, most often, women. In Canada, Wales and Sweden our telecentre pioneers all attest to this profile of the successful *people* that help ensure success. This point has been made before, but it bears repeating.

With the renewed emphasis on telecentres in African social and economic development policy, there is probably considerable room to become more systematic about the development of tools to help recruit, train and support successful telecentre *people*. As ACACIA and other development interventions come to work in African society to promote this approach, it is extremely important that the *people* involved with the African telecentre movement have primacy over the technology and other related tools which are embraced.

Technological Innovation

The people that work in telecentres often begin as the communities first technology innovators. They

help others to learn more accelerated innovation and adoption processes and eventually the entire community moves ahead on the innovation curve. This is much easier said than done.

Given the wide range of skills which telecentre people need to have, it can become extremely difficult to stay ahead of the market they are trying to serve. As Lennarth Bernhardsson, our Swedish Telecentre contributor described it, staff in telecentres need "to collaborate in the network of knowledge" in order to maintain a "step-ahead" of the people they are trying to help.

In order to maintain their role as innovators and early adopters, telecentre staff, who by disposition should be technically and intellectually curious, need to stay abreast of new developments in software, hardware and networking technologies. The most efficient way to do this is quite simple. Telecentre staff need to spend time with other telecentre staff! They need to meet and come to know each another such that they can eventually support one another with electronic tools.

While attending trade shows, participating in continuing education and reading relevant periodicals are also quite important, our telecentre pioneers and contributors found great technical, operational and moral support from meeting one another on a regular basis. In Canada, Australia, Sweden and Wales, telecentre staff always found ways to get together to engage in cross training and skill development.

This presents a special challenge for the successful growth of telecentres in sub-Saharan Africa. The general society and culture within which telecentre managers and staff will be working will have very little initial experience with or understanding of information and network technologies. They will, thereby, have even fewer local resources to rely upon for cross-training and support than was the case in the first wave of telecentres in Europe, Canada and Australia. The importance, thereby, of ensuring that telecentre staff and managers in Africa have a forum within which to meet becomes even more paramount. Our South African telecentre contributor, Nebo Legoabe, has developed the "Collaboratory", a unique project to try to meet some of these needs.

Initiatives such as ACACIA, perhaps more than most others, are in a special position to help create links among telecentre initiatives in different parts of sub-Saharan Africa as well as to ensure that the people resource is developed appropriately. The telecentre managers in Uganda, South Africa, Tanzania, Mozambique, Ghana and South Africa should all know one another! In doing this, whether a telecentre is sponsored by ACACIA, UNESCO, USAID or whoever should really be quite immaterial. On the ground, the job will be the same and the people who will define success need to support one another.

Our telecentre case studies did not point to any striking technological innovations which were subsequently adopted by market forces. To the contrary, the technologies which they adopted and modified were "state of the market" not "state of the art" technologies. Telecentre managers and staff will often "tweak" systems to make them more relevant to local circumstances. But, by and large, they are not research and development centres. While they are very much learning laboratories, telecentres are about the application of existing technologies rather than the development of new ones.

This is not to say that telecentres are not involved with technological innovation. The innovation which occurs, however, is in ways to help people use technologies which already exist rather than to develop new technologies which don't. In Sweden, for example, the Fargelanda telecentre helped to accelerate the adoption of digital technologies to support distance education in "education rings." In Canada, the Forteau telecentre helped to introduce multimedia production into the local tourism and hospitality industry. In neither case did new technologies get developed. Instead new technologies, which had been developed elsewhere, were applied to traditional sectors.

Among the lessons in this is that we should know what to expect from telecentres. They are about providing new capacities to people, not so much about developing new products. The outcome from telecentres is a far greater number of people who know how to do important things, not a few products to be sold in the market. Over time, telecentres, when sufficiently networked and in sufficient numbers, can and will come to be a virtual research and development laboratory from which new products could reasonably be expected. But at the onset, telecentres take others' technological innovation and make them work in geographically and socially remote communities.

Infrastructure

Telecentres are the antithesis of the "field of dreams" approach to technological and economic development. The "build it and they will come" school of reasoning assumes that providing foundation infrastructure will trigger innovation and the creation of economic wealth. There are many "white elephant" testaments to the fact that this approach seldom works and can be afforded by only the very few.

The first wave of telecentres began, in many cases, because the infrastructure wasn't there. The telecentre became a way to build the demand and the awareness for better infrastructure and services. The original telecentres were what might be called "pull" technologies. They created the demand for products and services long before it otherwise would have happened in geographically and socially remote communities and markets. Through their social entrepreneurship they "pull" major infrastructure providers to deliver new systems to the community. In Fargelanda, Sweden, the telecentre helped to install the first ISDN lines. In Labrador, Canada, the telecentre offered the first online service in a remote northern community.

The newer African telecentres present a different paradigm. In Mamelodi, South Africa, the telecentre is using a new wireless system called "Community Information Delivery System (CIDS)" which provides high speed access to the Internet. In Senegal, the state owned telecommunications provider, Sonatel, is itself the infrastructure owner and provider for telecentres, albeit not the type of multipurpose community telecentre our other case studies describe.

In the first wave of telecentres in Europe, Canada and Australia, telecentres became the "gadflys" which prompted, provoked and dragged the major infrastructure providers, often kicking and screaming along the way, to do things they would not otherwise have done. While our Swedish contributor argued that a collaborative posture was necessary to get the telecommunications providers to deliver the appropriate infrastructure, the Canadian and Welsh case would suggest that a combative approach was a more apt description.

As we enter a new phase of telecentre development in Africa, the telecommunications providers see telecentres as a solution, not as a problem as they did in the West. This offers new opportunities for progresss in Africa. Should a sense of common cause prevail, the wasted time and energy in adversarial interactions between infrastructure providers and telecentres demanding new services in out-of-the-way places can, hopefully, be avoided. It also portends new challenges. Without the innovator or the heretic, orthodox approaches to any human encounter can move with an institutional and an entrenched pace. If the hare does not run in the race, will the turtle move at all?

Telecentres offer people a mechanism through which a greater awareness and understanding of the role of telecommunications in our social and economic lives can be developed. Once people begin to use computers and networks, issues like bandwidth, connectivity, digital switches, long distance and a whole raft of new elements become everyday realities. The more informed the public the better the choices that will be made. Where infrastructure does not already exist, telecentres will help it get there more quickly. Where it does exist, telecentres will help the public learn why it is important and, after several years of the "diffusion effect", why it's no longer good enough!

Applications

All of our early telecentres had common applications. They were focused on general rural development and local economic development and then moved from this "anchor" use to embrace other elements of the communty. In Wales and Australia, the focus was on training. In Sweden it was on distance education services. In Canada it was on small business information and support. In South Africa the Mamelodi telecentre emphasizes community information, events and resources while in Senegal, the focus is squarely on telephony, a place to make phone calls.

There are at least two significant lessons to be learned from this. First, it is important to have an anchor use or "major tenant" for the telecentre. This provides the telecentre management with a clear market focus and position of strength. Over time other types of applications can be added in areas like telehealth, distance education, local government support and community information.

This represents a special challenge to the telecentre formation and development which is occuring in sub-Saharan Africa. The Multipurpose Community Telecentre, or "MCT" as it has come to be referred, has no necessary anchor user. It is seeking to combine and integrate facilities for a variety of institutional users. The first wave of telecentres in Europe, Canada and Australia began with one major user or market focus and then expanded to incorporate more.

The second observation which can be made from our first wave of telecentres is that their suite of applications changed over time. In Wales, for example, the telecentres which provided access to facilities and eventually networks became re-invented as teleworking training and office locations. In Canada, the telecentre changed from services to small business and rural development to promoting information industry growth. The Walcha Telecottage in Australia began as a training service and has grown to become both a teleworking brokerage and a contractor for data entry and processing work. It's safe to conclude that what the African telecentres are starting to do is different than what they will be doing ten (10) years from now.

The applications within all the first wave telecentres were quite similar. There was basic access to telephones, fax and eventually the Internet. This was supplemented by access to information collections including periodicals, small holdings of books, newspapers and other "stationary" electronic information forms such as CD-ROMS. This was all organized around the interests of the anchor users and markets for the telecentre service. Eventually there was also access to higher end communications services such as audio and video-conferencing along with training for small business, non-governmental organizations and other interested groups.

The Senegalese telecentres, as described by our contributor, Mactar Seck, primarily offer simple telephone, fax and photocopying services while the Mamelodi telecentre, located within a public library in Pretoria, South Africa, has organized it's original applications around community information, databases and events. It is probable that the Senegalese telecentres will eventually come to diversify the communications and information services they offer, especially as, over time, they consolidate and become larger.

One thing is for certain, both the needs of telecentre clients and the technology to automate information access and processing is going to change. The telecentre that remains close to both its client base and the applications technologies that will serve them best will succeed. The telecentres in sub-Saharan Africa, even as they begin to form, need to engage in strategic thinking for what they will look like and what they will be five (5) and ten (10) years from now.

Policy

In the first wave telecentres included in this volume, there were no policies to guide their establishment. In fact, these early pioneers in the world telecentre movement were the exceptions who demonstrated the need for rural policies to exist at all. In Sweden, Canada, Wales and Australia, public policies for rural development, education and telecommunications were influenced and often led by our telecentre pioneers. In Australia, Ian Reeve was contracted to prepare a report for government in 1990 to describe the world-wide telecentre movement which was subsequently followed by new government programs to support telecentre development. In Canada, federal and provincial governments adopted a special regional development agreement of support to further telecentre development along with other rural informatics initiatives after the first telecentre was established in 1989. The Canadian telecentres were among the first in the country to obviate the need for distance-insensitive access to the Internet, something which the major telecommunications providers introduced 7 years later across the country. In Europe, the European Union, along with many member states, became involved in financing the start-up and initial operations of telecentres in places like Wales *after* the early pioneers like Paddy Moindrot had established the first models to emulate.

While the policy environment towards rural telematics and telecentre development in Europe and Australia may be said to be reasonably well developed, in Canada it is largely non-existent, other than in the province of Newfoundland where telecentres were first started on the continent and were the first information industry development vehicles. No other region of Canada has publicly financed rural Information Technology Development Officers (many of the them former telecentre managers).

South Africa can arguably be said to have the most well developed policies respecting rural telematics and telecentre development. The Government of South Africa has committed to building hundreds of rural telecentres over the coming years and CSIR supports telecentre growth and provides technology guidance and support to community led telecentre initiatives.

In Senegal, the state owned telecommunications provider, Sonatel, is a primary agent of public policy in this area and is looking for ways to take an urban-based information kiosk communications service and move it out to rural areas through adopting some of the characteristics of the multipurpose community telecentre model that is being introduced in other regions of Africa. Along with this, Sonatel is attempting other innovations in rural telematics including an early warning systems for drought to assist with agriculture.

Major international development agencies are now also including rural telematics and telecentres as an increasing area of emphasis in their work. The recent (June 1997) "Global Knowledge-Local Wisdom" Conference and Exhibition which was sponsored by the World Bank and the Government of Canada is an expression of this as is the upcoming Rural Telecommunications conference that will be held in Washington DC in December of 1998. The Swedish international development agency, SIDA, now includes *telecottages* as one of the tools it provides in international cooperation assistance. With the late winter visit to Africa by President Bill Clinton, USAid is now adopting more telematics based forms of assistance and international cooperation support.

It might be argued that in Africa, the policy environment is now awakening to the need for new approaches which provide for its participation in the global Information Society. Telecentres, and especially rural telecentres, need to be considered as one of the tools to ensure that this participation is inclusive rather than being focused only on the dominant metropolitan institutions in society.

The move to the privatization of telecommunications in Africa is both a challenge and an opportunity. Ideally, privatization means more competitive and technologically agile telecommunications institutions and services. It can also mean that Geoffrey Moore's message to ignore the late adopting and lagging elements of the society may find more favour in public policy.

International agencies and initiatives such as ACACIA represent an important counterpoint to this likelihood. As is manifestly evident from our case studies, telecentres serve a significant public good which over time creates private opportunities. As the policy environment for the Information Society begins to take form, the telecentres from rural parts of the developed world and the new initiatives being undertaken throughout Africa can serve as an important reminder that the public good and the private opportunity are complementary, not mutually exclusive.

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CASE HISTORIES FROM THE GLOBAL TELECENTRE MOVEMENT

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Rolling Telecentre Interviews

Rolling Telecentre Interviews

LB -	Lennarth Bernhardson Sweden
NL -	Nebo Legoabe South Africa
РМ -	Paddy Moindrot Wales

What are the most mission-critical issues in the "start-up" phase of a telecentre?

LB- To try to get the telecentre to make its own money by doing business! In the long term, it is not possible to help small and medium enterprises with their IT needs under the "hat of the local government".

NL - Interested community, who know what their needs and expectations of the service would be, and will be willing to use the service, even paying for it; Availability of funds to kick start the project/ initiative, and to allow for some continuity over some time, just to ensure that the project does not die early because it has not grown enough to sustain itself; Availability of a champion with relevant skills, especially community related skills to manage the center on a daily basis; Good team to oversee the management of the center and to give strategic direction; Secured location; A clearly defined business plan focussed on business models that will allow sustainability and growth; Relevance and appropriateness of the ICTs, with people who have the skills not only to use ICTs, but also to service ICTs.

PM - The "person" is the most important: a champion who won't take "No" for an answer, who is prepared to take chances, who is trusted, who can handle (and welcome) change, who can feed the 5000 from loaves and fishes, who will work for love when no money is available, at all hours. And someone should be groomed to replace that person when they burn out! After that, funding, premises and equipment - though the right person will sort all that out...

Were there policy and regulatory issues that had to be overcome, changed or developed to help your telecentre succeed?

LB - Not all of the founders had their own aims with the telecentre, but they could all gather on the main issues: Teleworking and rural development. On a national level there was the possibility to get some founders to start telecentres who were working with rural development. A lot of the Swedish telecentres were starting at this time. Later on, the Telecottage movement in Sweden got a big registration job and then a lot of new telecentres were started.

NL - In South Africa, in 1996, the new Telecommunications Act established a body called the Universal Service Agency (Agency). The Agency has the job of promoting access to telecommunications and information services throughout the country. There is a particular focus within the Agency on serving the historically under-serviced and rural areas. The main project to achieve these objectives is the establishment of telecentres. In the first financial year (1997-98), 80 telecentres are being set up. The objective is to establish nearly 1,500 within the next five years.

PM - We had to tailor needs and flex our outputs to suit funding and other support agencies. Ducking and weaving so to speak... at one time the Welsh Development Agency gave grants for restoring redundant buildings as "IT centres", and there was a big rush before the source dried up.

How do community telecentres relate to the private sector? Alternatively, how do private sector telecentres relate to the community?

LB- In Sweden it is not possible to do business for the local government, but it is possible to have the community as a customer. So if you wish to have both local business and government as your partner and your customer, you have to be in business yourself.

NL- If I have to speak about one of the telecentres in South Africa (MACIS), it provides support to SMMEs (Small, Medium and Micro Enterprises) in the area. It helps with the development of business plans, typing of letters, designing and developing business plans, sending and receiving faxes, identifying business opportunities on the Internet, etc. It also helps a local employment agency with finding employment on the Internet (for a fee).

PM- Our community telecentre has always supported local businesses, with training, access, and work when required (i.e. payroll management, secretarial services). Private telecentres (at least the ones I know) find they have spare capacity (say an unused PC two days a week, or a plotter standing idle) and offer access to the community

What about the telecommunications companies?

LB-Almost the same (as Canada)! We had to convince Telia for the need of ISDN to use video conferencing ! They first offered ISDN for us to the price of \$20,000US. Now it is possible to get ISDN for \$300US ! In the same way it was when we needed a leased line to the Internet.

NL- The Universal Services Agency is working directly with the Department of Communications and Telkom (Telecom Company) in deploying these telecentres around the country. There are two Cellular Network companies (VODACOM and MTN) which are also involved in areas where there are problems with telephone lines.

PM- We had to nag British Telecom to upgrade our lines from analogue to digital. Some remote parts of Wales still can't get ISDN, and BT (who are still the monopoly supplier) charge a lot of money for installation, rental and use of ISDN, which is holding

development back somewhat.

Was there a major application or content theme associated with your telecentre?

LB- Rural development, education and teleworking. Education was the "anchor" application (and still is) and in time it was possible for us to create different applications to support rural development. To day we are working with groupware and distance education for local development groups in all of Sweden.

NL- The issue of content creation is still at an initial phase. In the case of the MACIS project, they have developed their web site, but also developed a directory of services in the area, which has also been published in the Internet. See http://www.mweb.co.za/mamelodi/main1.html

PM- Our main theme was, is, and maybe always will be, training. I remember an early user asking "what happens when you have trained everyone?". Answer - start again, with Windows 2000 or whatever. This earns income, either direct or by funding, i.e. from European Union.

What about understanding and use of ICTs -what's the best strategy to use to help clients begin using the new technology?

LB- Education and support open 25 hours a day ! Create small useful services for example: file transfer, information gathering etc. Most of the companies only had spare time in the evening. It must be possible to use the services in late evening!!

NL- In the MACIS case, the champion did not have any IT related skills and competencies, but was trained in the following: by the CSIR (Which initiated the project in the community, largely to introduce ICTs in the community and to pilot the Information society initiatives):

- Information management;

- Information and referral services;

- Information facilitation and communication skills;

- Procedures for delivering community information services;

- Interviewing technique to address the queries asked;

- The use and handling of computers and how different computer programmes work;

- Internet and telecommunications techniques: training on how to use the Internet, including e-mail;

- Procedures for data gathering;

- Database development and maintenance;

- Needs analysis and interpretation; and

- Kiosk (touch screen computers) management and update.

The CSIR is providing technical maintenance and support to MACIS.

The facilitator is now able to train users on the use of Internet, e-mail and finding information on the touch screen multimedia computer/kiosk. Most of the users are students (high school as well as university), but there are adults who are also interested. Pupils from primary schools are also interested and are also receiving training.

The Universal Services Agency, on the other hand wants to train people on basic use of computers, first level maintenance and support. It is looking at the mechanisms for ensuring daily support and maintenance of the Telecentres.

PM- When we started no-one used ICTs. We found that using the word "telecottage" attracted people, who wanted to find out what it was. If we had called it, say, a technology

centre, people would have stayed away in droves... we offered help to voluntary and community groups, like the local community newspaper, community councils, playgroups, theatre group. And "jealousy" is a big factor; if Mrs Jones has learned to work with technology, then Mrs Davies wants to too. Keeping up with the Joneses, we call it.

How do you convince the people in positions of power that what you are doing is important?

LB- It is not possible to be a prophet locally! We started to help groups and people in communities nearby. Then local government met people from other communities that heard about us and our quality! After that, they started to visit us and use our services. We have wasted a lot of hours trying to convince local decision-makers that our work is important, but it takes only a few minutes when other decision-makers, in communities nearby, said "we are envious".

NL- In the case of MACIS, we started the project as a pilot. The government was aware of what we were doing and supported it by offering the venue (which was the library). It was only when the project was up and running that there was interest in it. After 2 years in operation the project was evaluated, especially the use or perceptions of ICTs. The results created interest in the authorities, and the Universal Service Agency saw MACIS as one of the models for telecentres, and they are now supporting it.

PM- Ask these authorities to visit, open new facilities etc. When they come, line up enthusiasts to meet them: they will do your selling for you! Keep sending the press newsy features about the centre.

Has the case of women being the best at diffusing information and other technologies been the case in your country?

LB- To work within a network as well as the use of groupware is a female way of working! Sssch, don't tell the male-dominated society! To work within a network, use chat, participate in discussion groups, collaborate by digital networks etc. demands a lot of understanding and ability to ask questions.

NL- In MACIS, the project is managed and facilitated by a woman. The Universal Services Agency recognizes the importance of women in community related projects, and has made it a rule that at least one of the telecentre managers who will receive training from them should be a woman.

I think women are natural facilitators in community initiatives because they understand the dynamics in the communities and usually start with simple, basic, real issues (like addressing child care facilities, basic cooking, baking, sewing, simple financial services, etc. and that once this are in place, others can grow). They have time and patience to teach and to explain complex issues in simple terms. For women, things have to be practical and real before they can appeal to them.

PM-It's been the same in Wales. Women seem more receptive to change and learning, are better communicators, are enthusiastic without being propellor heads... 'nuff said?

What about telecentre financing?

LB- It is possible to make money in the "market" and use it to subsidize the work of rural development.

NL- In the telecentre, the focus should not be on IT, but in services. If you provide relevant needed services like telephone, fax, word processing/ typing, photocopying, people will use the service. However, we have the responsibility of teaching people about the possibilities of other services like e-mail or the Internet. These latter services should be introduced

gradually, and the benefits should not only be seen by the people, but they should also be real. If that is the case, the people will gradually begin to utilize them, and eventually, depend on them (To give an example, if you have not used a cellular telephone before, you may think it is expensive, a luxury, etc. yet once you have used it, and have seen its advantages and benefits, you will not want to be without one.)

PM- Continuing financing is the most difficult aspect of running a telecentre. Considering the high value of a rural telecentre as a community economic and social development agency, perhaps government funding (albeit at a low level, to encourage independence) should be continuous and permanent.

How do telecentre managers find ways to keep their knowledge and skills ahead of their client?

LB- To collaborate in the "network of knowledge", visit trade fairs and further their education.

NL- The Telecentre initiative is still at infancy stage here in South Africa, and I am not sure of how this will be handled.

What I think however, is that there should be a working relationship between training institutions and Telecentre initiative (the Universal Service Agency level) so that there is constant technical training and re-training of Telecentre staff. Technicians at the Telecentres can also spend some time at large companies and get more "on the job training" with complex tasks from experienced technicians. In some cases, there can be some secondments of staff from experienced developed ICT markets to the Telecentres. All these depend on how the negotiations go.

PM- Keeping a watching brief on developments via newspapers (most of the serious press in the UK have an IT supplement day, usually Thursdays) and via feedback from students, who are voracious browsers for new technology. TC staff are by nature quick learners, used to keeping one step ahead of the crowd.

What, if any, innovative technology solutions were developed or invented as a result of the telecentre?

LB- The use of ordinary pedagogical methods when using digital tools in distance education. In Sweden we have a tradition of small groups gathering to solve a specific problem. It's called "education-ring". The pedagogic model is: Use the knowledge of all the participants and you have a lot of knowledge. Get influence from experts and add the accumulated knowledge of the group. It is called "Problem based learning" Regular distance education is based on lectures by video conference and e-mail. We added the way of "Problem based learning" and use for example: Video tapes to lecture and the video conference to ask questions and collaborate between the local groups! Add "virtual classrooms" by using computer conference systems! It works! It's great!

NL- I am not sure about this one.

PM- Many telecentres in Wales now offer a mailhub facility, to support local businesses who don't have technology and/or time to be onliners. Emails can be faxed on, or users can log on via a local call to pick up/reply to stored mail. Most often "old" PCs are used as Unix boxes for this. IT use is now (10 years on) widespread in our community.

How do you know when a telecentre has succeeded?

LB- When you make money to survive.

NL- Some of the signs would include the following:

- the growing number of users - the growing business (start with basic word processing, to developing business cards, letter heads, scanning services, etc.) - how ICT market is growing (If, for example, e-mails are being utilized to the extent that there is demand for the growth of the market) and if local people grow links with International markets); - if there as a development, for e.g. of a market for web-based content creation in the community, because others (entrepreneurs and NGOs want either to develop their web pages or want their information on your web page; - if there is a growing demand for Telecentre services in the area to the extent that other agencies establish their Telecentres; - if some entrepreneur develops a business around the servicing and maintenance of IT and ICTs in the area/ community (Hardware); -If some entrepreneur sees the opportunity to develop and provide some software support in the area.; -if an NGO or an entrepreneur in the community sees the need or possibility of providing training for ICTs in the area; - if some entrepreneur/ NGO sees the market to develop ICT networks and infrastructure in the area; - The final turnover of the business of the telecentre.

PM - To survive is to succeed! Length of survival is in proportion to success. The most successful might be the longest survivors on the least funding. In the public eye, the most successful are the best self-publicists. Like getting on the cover of the Rolling Stone!

"LITTLE ENGINES THAT DID"

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CASE HISTORIES FROM THE GLOBAL TELECENTRE MOVEMENT

IDRC Study/Acacia Initiative Prepared for IDRC by Richard P. Fuchs Futureworks, Inc. June 1998

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The Telecenter Discussion Forum

April 24th, 1998

"Launch and Learn"!!! That's how a recent book (The Digital Estate) described the way in which "digital" organizations introduce new services and products. While none of us who were involved in the first wave of telecentre establishment more than a decade ago had access to anything approaching digital services, the "experiential learning" theme connoted by this message has everything to do with how telecentres work and why they succeed. It also has something to do with what we hope to accomplish with this Discussion Forum.

I'm Richard Fuchs and on behalf of the International Development Research Centre (IDRC-Canada) I am completing a series of case studies on telecentre experiences in different parts of the world. Part of my work on this project involves launching this Telecentre Discussion Forum.

Purpose

The purpose in hosting this Discussion Forum is to bring together experienced telecentre practitioners and researchers. We want to foster dialogue with those who are involved with telecentre establishment in different parts of the world, especially those associated with the ACACIA initiative in Sub-Saharan Africa. Our purpose is simply to share experiences, lessons learned and PRACTICAL insights about telecentre establishment and management.

Discussion Issues

I will serve as Moderator. I will periodically introduce new issues for discussion. Some of the issues

which we'll cover include Start-up, telecentres and the private sector, telecentres and the telcos, telecentres and people development, financing telecentre operations, telecentres and local application and content development, telecentres and R&D. When the Discussion Forum is finished in mid-May, we hope to excerpt elements of the contributions in the case study report which I am completing for IDRC. So consider yourself to be involved in a collaborative book writing exercise!

Timing

We intend for this Discussion Forum to last for three (3) weeks. If things go very well, and people would like it to continue, we'll arrange for that to happen.

Procedure

The procedure is simple (I think). I will launch the first discussion topic tomorrow on Start-up issues. When you reply for the first time (your reply will automatically go to an entire list of 49 people) kindly introduce who you are and who you work with. If you want to suggest someone else for the Forum, or you want to be removed from the list, please email me at rfuchs@fastfwd.com

In Closing

We look forward to your contributions and participation in this Discussion Forum. If you have any questions or suggestions, please forward them to me at <u>rfuchs@fastfwd.com</u>.

The Discussion Forum (telecentres-cl) is now superceded by a new discussion forum (telecentres-l)

The archive of the old discussion forum is available at the following URL:

http://www.idrc.ca/acacia/tele-cl/index.html

"LITTLE ENGINES THAT DID"

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