MODULES FOR TRAINING TELECENTRE STAFFS
An Interim Report with Sample Modules

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MODULE 1
THE ROLE OF TELECENTRES IN OUR COMMUNITIES

You and your telecentre are part of a worldwide movement. For about 15 years — since "telecottages" began appearing in countries as widespread as Sweden and Australia — telecentres have been established to give people in large and small communities access to various information technologies. Much of the attention today is on access to computers and the Internet although some multi-purpose community telecenters provide information-related services involving other media such as community radio, audio and videocassettes, and printed media.

Many large international organizations support this movement. These include the World Bank in Washington, the International Telecommunications Union (ITU) in Geneva, the United Nation's Food and Agriculture Organization in Rome, UNESCO in Paris, the World Health Organization and others. Various nations have actively supported the development of telecentres as a means for their people to share the use and advantages of information and communication technologies (ICT). Examples include South Africa, India, Hungary, Australia, Costa Rica, and Canada.

In this module, we will explore the role of telecentres in their communities by looking at several examples from developing countries. We will also look at other media that can join telecentres to make up a larger community communication system and provide access to persons who are out of the reach of the newer ICTs.

1. THE INTERNATIONAL DIMENSION OF ICTs

International and national organizations are investing in telecentres because they believe communities benefit from having accurate information. They believe that information technologies are a key to providing timely and useful information on subjects ranging from market prices to health care. And because many in the community do not have individual access to these technologies, telecentres (much like a telephone kiosk) provide shared access.

The central and vital role communication and information play in the lives of people was officially recognized by the UN General Assembly in December 1997 when it endorsed a statement on the Universal Access to Basic Communication and Information Services. The statement concluded that the "introduction and use of information and communication technology must become a priority effort of the United Nations in order to secure sustainable human development." The statement also embraced the objective of establishing "universal access to basic communication and information services for all." (ITU, 1998) And, as we moved into the 21st century, a high level panel of experts on information and communication technology noted that:

> The world is undergoing a revolution in information and communication technologies (ICT) that has momentous implications for the current and future social and economic situation of all countries of the world.

> In March 2000, an estimated 276 million persons worldwide were users of the Internet with a growth rate of roughly 150,000 persons per **day,** 220 million devices were accessing the worldwide web and almost 200,000 devices were added each **day**. Web pages totaled 1.5 billion with almost 2 million pages being added each **day.**

E-commerce...totaled $45 billion as recently as 1998, and an estimate in January 2000 projected it could explode to over **$7 trillion** as early as 2004.

These are astonishing figures, unprecedented by any measure, but they reflect activity by less than 5% of the world's population. The gross disparity in the spread of the Internet and thus the economic and social benefits derived from it is a matter of profound concern....

The formidable and urgent challenge before national governments and the development community is to bridge this divide and connect the remainder of the world's population whose livelihoods can be enhanced through ICT. (Report, 2000)

In mid-2000, the eight major industrial nations (the G-8) acknowledged that ICT "is one of the most potent forces in shaping the twenty-first century [and] its revolutionary impact affects the way people live, learn and work, and the way government interacts with civil society." Emerging from the discussion was the Okinawa Charter on the Global Information Society. Its framers announced that "this Charter represents a call to all, in both the public and private sectors, to bridge the international information and knowledge divide." The Charter also renewed a commitment of the G-8 nations "to the principle of inclusion: everyone, everywhere should be enabled to participate in and no one should be excluded from the benefits of the global information society." In 2001, the G-8 launched a major effort to strengthen all nations' potential to be part of this Information Age.

The value of information can be seen in more personal terms, for example, at the community level with real people. There are many stories from around the world that illustrate how valuable information can be for someone in the community. Here is one from China:

> Bai Yuxiong, a farmer from a poor area in northern Shaanxi Province, traveled at least 500 kilometers to Yangling Agroscience town to learn about prices of Qinguan apples and the value of a small pumpkin variety he grew.... At Yangling Information Center, for the first time, he saw the computers and heard about the Internet. He saw the director of the information center typing some things on a computer. In a short time Bai Yuxiong got all he wanted from the computer.... He knew the price of the apple. And his small pumpkin was found to be of a very precious kind, an indispensable delicacy for Japanese state banquets.... Computers opened his eyes and his new [export] venture. (Li, 1999)

And now it is you and your telecentre that are part of the challenge to provide the means for communities to obtain information using the communication resources that are available in this country.

1.1 The information debate

In your community, you may hear a debate that takes place around the world. Some may ask: "What is the value of information?" In a community's or a national government's list of priorities, information may not be perceived as the most important priority in meeting the needs of the people. A women in Nepal raises the issue:

"Our priorities are hygiene, sanitation, safe drinking water," said Supatra Koirala, who works at a private nursing home. "How is having access to the Internet going to change that?" (Black, 1999).

Following is a fictional discussion, but a discussion that is often repeated.

The information debate

Official: I'm not convinced that people, particularly ordinary, mostly poor people, in this country really need these information technologies and the telecentres. We've got to think about what harm those things can do for the people. Drilling wells for clean water, building roads, providing better basic health care and schools for teaching people to read and write are much more important for improving people's living conditions than providing them with computers and those webs. Besides the information they get at the telecentre is mostly produced in the West. We know what that kind of information will do to our culture here. And how about those dangerous extremist groups and subversive terrorists who can use the information networks to spread their distorted messages and influence the ignorant masses?

Telecentre leader: Yes, those are important issues. And, yes, roads are important but so are telecommunications. Access to telephones and faxes reduces the need for people to travel and their feeling of being isolated, and improves the efficiency of transporting goods. The communication tools reduce transportation costs. They improve the availability of essential goods for the community and contribute to improving living conditions and reducing pollution. They may also contribute to saving lives in case of disasters. It may take years to build roads to many of our rural communities that can now be reached only by foot, or horses, or donkeys. But some of these new communication systems reach there much quicker. Consider our public services such as health, education and security. These can be immensely improved with modern communications. There's a great deal of information and knowledge we can get through ICTs. There's instruction and training on basic hygiene, literacy, water management and environmental protection. Add to these the useful information, especially for rural communities, such as agriculture, animal husbandry, handicrafts, micro-enterprise and self-employment management. Some of our farmers even get lists of market prices on the net.

Telecentre volunteer: Perhaps with better information resources, we have a better chance to keep our young people from migrating to other areas. Besides, with a telecentre, people have a chance to get opinions and ideas from all over the world, and we can give our ideas and opinions to our politicians and to the rest of the world.

Based on Johan Ernberg, *Empowering Communities in the Information Society: An International Perspective*

1.2 The Telecentre at Nakaseke

Telecentres range in size and description and services. We go now to a telecenter operating in Uganda to see some of the lessons that have been learned at this early stage of the telecenter movement. The telecentre at Nakeseke, located 60 kilometers outside of the nation's capital city, was assisted by a group of international development agencies.[1] It is a multipurpose telecentre that distinguishes it from the many shops around the world that are exclusively computer and Internet facilities. This one is also a library for the community. Typically, you can see a primary school pupil using a large dictionary, an older student using a book on sustainable agriculture for a school paper, and community volunteers practicing a computer program that they will teach to others. The telecentre also has a telephone and fax

for use by the public. Let's take a closer look at this telecentre and the setting in which it operates.[2]

Description

Life has changed in Nakaseke, which is 64 kilometers north of the Ugandan capital, Kampala, and 16 kilometers from the nearest town, Wobulenzi. Now a modern telecentre and library, complete with textbooks in English and the local language, Lugandan, serves not only the local people but also the 24 neighboring primary schools, four secondary schools, a primary teacher's college and the nearby hospital. The Nakaseke Multipurpose Community Telecentre [MCT] started in December 1997 as a project aimed at introducing new information services to the rural areas of Nakaseke and Kasangombe in the Luweero District of Uganda.   The project aims to demonstrate that providing information and communication to rural communities catalyses the development process and results in improvement of the quality of life of rural communities. The Nakaseke Telecentre is part of a chain of five telecentre projects initiated in Benin, Mali, Mozambique and Tanzania and is supported by UNESCO, the International Development Research Center, and the International Telecommunications Union.

The services offered by the multipurpose telecentre include computer applications, training, Internet, e-mail, photocopying (the most popular), telephone, fax, library, video shows, newspapers, audio recordings, and community listening areas.

The Nakaseke MCT and Library Pilot Project is equipped with eight computers, two telephone lines, one fax, and a photocopier. A land telephone line was brought from 16 kilometers away. The building was donated by the community and renovated to an acceptable level for project work. Electrical mains power is available, but because of interruptions of service, the telecenter uses an inverter and a set of batteries for backup. A generator was not favored for this purpose because of its relatively high running costs in terms of fuel.

A core group of trainees was selected to learn the computer programs so they could, in turn, train the rest of their community. To be sure that this group had the community's support, community members were first asked to approve the selection of 24 people for the free-of-charge program. The language of instruction was a combination of Lugandan and English. The trainers were a group of very young people from Uganda Connectivity — a group concerned with Internet access.

The telecentre aims at serving the entire communities of Nakaseke and Kasangombe but most particularly the following core user groups: women, youth, children, the medical community, workers, teachers, students, farmers, and local leaders. The content and programming for the telecentre is, therefore, primarily tailored towards meeting the needs and aspirations of its core target groups.

The early users of the telecentre services were:

teachers and students who wanted photocopy services and a good resource centre;

health officers who often need a reference library;

business people interested in communicating with others in the capital city;

women in development groups who wanted to enhance their work by getting information on videos;

community members, elders and opinion leaders interested in reading newspapers.

Following specific requests by users, other services have been introduced like feature films every Friday afternoon, game facilities in the evenings, functional adult classes and radio listening for particular groups.

In addition, Nakeseke explored a pilot telemedicine application using an inexpensive, light and mobile teleconsultancy station able to support a large range of radiological applications. Data collected from the patient by an on-site health worker using such a station could be transferred in compressed form to an expert doctor in the principal hospital in Kampala, who would perform long distance diagnoses.

Background and Context

Nakaseke is located approximately 50 kilometers north of Kampala and 16 kilometers from Luweero. It has a population of some 32,000, approximately half of whom are women. The Nakaseke town center itself has a population of 3,000 people.

Most of the people are Bagandan; Baganda is the biggest tribe in the central part of Uganda. The community is largely oral and doesn't have a credible reading culture. Until the telecentre started, there were no newspapers available in Nakeseke; they were available at the next town which is 16 kilometers of a rough road away.

Farming in coffee, bananas, livestock raising, small-scale swamp fishing and horticulture is the main economic activity, and Kampala offers the biggest market for local produce. About 90 percent of the farmers use traditional farming methods.

There are 23 primary schools and four secondary schools in the subcounty. Nakaseke subcounty has a total enrollment of approximately 3,000 boys and 3,350 girls in 79 classrooms according to 1999 local administration records; 60 percent of the Nakaseke community is literate, which is largely limited to local Lugandan language. Many schools in the area have neither adequate educational facilities nor a library. A Primary Teachers' Training College has been built in Nakaseke.

Nakaseke has 7 health units, including a 100-bed hospital, 5 doctors, 6 medical assistants, 23 midwives and 33 nurses. The hospital is connected to other health units by a radio. Access to clean water is possible through a network of 28 bore holes and a protected spring.

Aspects of social change

The Nakaseke MCT and Library Pilot Project has revitalized the life of this rural community in Uganda.

The community (42 villages and 3000 households) is gradually understanding the importance of information, as evidenced by the growing number of people inquiring about a variety of issues. Farmers are now requesting market rates and general trends on crops they

grow. The daily newspapers at the telecentre have also helped to keep the community up to date with what is going on in the country.

The obvious purpose of the pilot project isn't to test a new technology but rather to test a new service.

Computers in Nakaseke are no longer strange and mysterious machines. The telecentre has demystified computer communications to some extent through training and general awareness programmes. Over 60 community members have now been trained in computer communication services at the telecentre, which has led to the growth of a core group of skilled people within the local community.

There are a number of lessons learned and documented for future telecentre development. Management systems have been tried and established for sustainable telecentre operations.

The telecentre has proved that MCT in rural areas is useful for development. A good number of development groups have visited the multipurpose telecentre with a view of establishing similar ones in other areas.

Media and methods

The community has been at the center of the planning and execution of the activities of the multipurpose telecentre. A local steering committee representing each of the core target groups was elected by the community to supervise the telecentre's daily activities, liase with the management committee and mobilize the community.

The telecentre is governed at the top by a management committee chaired by Uganda National Commission for UNESCO; other members include the Uganda Telecom Limited and the Public Libraries Board. The Committee is responsible for overall policy and planning, for staffing, and as a liaison with international partners.

Information materials such as brochures and posters, translated in Lugandan to ensure maximum comprehension, were printed and distributed. Traditional communications systems were used during the awareness and consultation process. To ensure that the community opinion leaders send the right message to the community, "A Guide for Community," complete with illustrations and all the information that a mobiliser should know about the telecentre, was developed.

Advertisements were aired at timed intervals on "Radio Nakaseke": a simple combination of an amplifier and two low-watt loudspeakers tied up on a limb of a tree raised a few meters above the host shop.

Lessons learned from Nakeseke

We can extract some ideas from the Nakeseke experience that might be applied at almost any telecenter. Here are some:

. Communities can be involved in various ways, and this participation helps provide a sense of ownership by the community.

˙ The telecenter is focused on communication *services* rather than on *technology*.

˙ The telecenter made an explicit effort to build a demand in the community for information services. This included training a core group of people who would train others and identifying specific groups for whom to provide services.

˙ Partnerships help the telecenter become woven into the fabric of the community. The community provided the telecenter building, and a library helped expand the utility of the center.

2. COMMUNICATION MEDIA AND COMMUNITY DEVELOPMENT

We mentioned earlier that much of the international focus today is on computers and the World Wide Web (WWW). But as we develop the community's information services, we may need to look more broadly at the media that presently exist in many communities — and ask how these might be part of a comprehensive approach to obtaining benefits from our communication resources. The task for the telecenter staff is to explore how the mass media and the community media can be partners with the telecenter for the benefit of the people.

 To gain this perspective, we look at a review of community media by a team from the Food and Agriculture Organization (FAO). The following section of this module originally appeared in *Tam Tam to Internet*, a book published in Africa in 1998. While the authors focused on Africa and food security, its lessons can apply to many of our communities.[3]

2.1 Traditional folk media

Many Africans, especially those in remote rural areas, live a long way from the global information highway. In many rural villages there are no satellite dishes, computers or televisions. But these villages contain a rich communication environment that predates modern electronic media by many, many years.

Modern media may not only fail to reach many remote rural areas, but lack cultural credibility when they are available. Receptivity to outside messages can be enhanced by the use of traditional folk media that are often an integral part of rural life and that use the visual and oral expressions that are commonly understood by villagers.

Traditional folk media are cultural resources that accumulate indigenous knowledge, experiences and expressions passed down from generation to generation. Woven into proverbs and poems, songs and dances, puppet plays and stories, rhythms and beats, they are embedded with a strong sense of cultural identity which can be a potent force for development. In many cases, these media are the traditional conduits of indigenous knowledge, experience and culture. Creative use of these cultural resources in communities where they are popular and well entrenched can be a subtle and effective way of introducing development ideas and messages.

The use of traditional folk media in development is not new. For many years, they have attracted the attention of communication professionals as an alternative or a complement to modern mass media. Traditional media have been used in family planning campaigns, in health care programmes, in environmental protection projects, and in adult literacy programmes, among others.

Development communicators have used traditional media to help mothers learn to prepare more nutritional food for their children, to influence attitudes towards family size and to introduce new practices to farmers. Traditional folk media offer an effective means to integrate local agricultural knowledge with new scientific knowledge from outside sources.

Some of the advantages of traditional folk media are that they do not require large capital investments, and there is not a dependence on expensive communication technologies that are liable to break down. Traditional media can be used "live," and are likely to have the greatest impact when audience members can interact with the performers and artists and even participate. Alternatively, they can be coupled with other media such as radio and television.

Using traditional folk media requires skill in the crafting of development messages into the fabric of the media. It is best done through close collaboration between development workers and folk media artists and performers.

2.2 Rural radio

Rural radio is distinctive from urban radio in that it is directed specifically to rural people and their information needs. In many cases, the information needs of rural people are virtually ignored by national radio networks. A rural radio approach is an alternative to narrow, city-centred urban radio.

Rural radio has a rich history. The first rural radio programmes in Africa appeared in the late 1960s, growing out of educational radio efforts in Europe, Canada and the USA. One of the most significant contributors to the evolution of rural radio was the Radio Forum movement in Canada from the 1940s to the 1960s. Listening groups gathered around a radio receiver at a given time to listen to a programme on specific agricultural topics. At the end of the programme, the group discussed what they had just heard and sent their comments and questions back to the radio producers. At its height, the Radio Forum involved 1,600 groups across Canada with a total audience of 30,000 listeners.

UNESCO adapted lessons from the Canadian experience for use in India in the 1950s. In subsequent years, the use of radio as a development tool was promoted in various regions of the world, including Africa. Collective listening groups, so-called "radio clubs," were organized in various African countries, such as the Association des Radios Clubs du Niger, founded in 1962.

From these early efforts, a design for rural radio evolved which was based initially on mixed programming (combining agriculture, health, oral tradition, music, and folk tales) and subsequently developed into a more interactive use of the medium. Today, it is widely recognized that rural radio programmes are most effective when produced with audience participation, in local languages and taking into account cultural traditions. Community participation is a fundamental characteristic of rural radio — live public shows, village debates and participation in the actual management of the radio station are just a few examples. This approach empowers rural people to participate in the dialogue and decision-making processes essential for them to control their own economic, social and cultural environment and play an active part in development activities.

Rural radio can fulfill a number of versatile functions. It is:

• an important mechanism for rapid diffusion of development information in a diversity of languages and to widespread, often remote, geographical areas;

• a channel for interactive communication, for dialogue and debate on the major issues of rural development;

• a platform for democratic and pluralistic expression of the opinions, needs and aspirations of rural communities;

• a tool for cultural expression and entertainment, and a means of collecting, preserving and enhancing the oral and musical heritage of rural communities;

• a medium to collect local information on social issues, which is essential for defining, planning and implementing development efforts;

• a means of raising public awareness and motivation; and

• a tool which, combined with other media, can be used for training and the transfer and exchange of knowledge and technologies.

In Africa (as in Asia and Latin America), radio is one of the most widespread and popular tools of communication. It is, therefore, a very appropriate communication technology to

address food security, poverty reduction, environmental protection and a host of other areas of concern to rural Africans. Rural radio often goes beyond agricultural issues to address a wide range of related social, educational, health and cultural issues. It is excellent for motivating farmers and for drawing their attention to new agricultural production ideas and techniques. It is inexpensive, has wide coverage and is readily available, even to very remote rural populations. Programme production is relatively simple and local stations can easily create their own content.

In recent years, some important changes have taken place in radio in Africa. Once a top-down medium for delivery of messages, it is now becoming more interactive, with opportunities for dialogue, exchange of views and debate. Centralized radio, based in the capital or in the major urban centres, is becoming decentralized with many regional and local stations. Government controlled radio is being joined by independent, private radio stations. Deregulation and decentralization, the ending of state monopolies and the emergence of new commercial broadcasters are all creating a more positive context for rural radio — one which encourages closer and better interactive communication with African communities and which empowers rural people to actively use this important tool for their own development.

2.3 Participatory video

The popularity of small-format video as a tool for rural and agricultural development has increased dramatically in recent decades, in large part because it is a highly persuasive and effective communication medium. Video makes it possible to:

• overcome barriers of illiteracy;

• visually demonstrate new farming ideas and techniques;

• compress time (e.g., a crop cycle into a short presentation);

• constrict space differences (e.g., use testimonials of rural people from other locations); and

• standardize information so that it is transmitted accurately from technical sources to farmers.

Video is an effective communication tool to increase awareness about specific development problems and stimulate local discussion of possible solutions. It has become relatively cheap and easy to use. In the last decade, the cost of video equipment has decreased from about US$10,000 to 3,000 and the weight has dropped from 30 to 3 kg.

With some basic training, rural people can prepare video presentations about community development concerns in local languages. Editing can be done in the camera and, through immediate playback, video production results can be quickly viewed. Presentations can even be shown in areas without electricity using battery-powered monitors.

Initially, many development planners dismissed video as too "high-tech" and as an "inappropriate technology" for working with rural communities. Experience has shown otherwise. In many development settings, small-format video, in the form of consumer grade video cameras and portable monitors, has enabled rural dwellers to share their experiences with one another across vast distances; access up-to-date knowledge prepared by agricultural technicians; and speak directly to otherwise unapproachable decisions makers.

Participatory video in Mali

The Centre for Audiovisual Production Services (CESPA) was established in Mali after successful experiences training farmers in Latin America utilizing video coupled with guidebooks and group discussions.

In the early 1980s, an FAO project in Mali has as one of its objectives the training of plant sanitation agents. A large number of trained agents were needed so it was decided to carry out mass training sessions using video. This method had been successfully used in Latin America, and a Peruvian video expert was recruited to carry out the training in Mali in 1984/85.

The successes of this training approach led to an FAO project from 1988 to 1992 to establish an audiovisual production centre. The project began by training a group of "audiovisual pedagogues" who were then hired by the Centre. The project focused primarily on multimedia training of farmers, but also included were social and cultural programmes for rural people. Participatory video was an essential communication tool.

Initially, CESPA operated as a non-profit, public service organization for training farmers. However, policies which emphasised private-sector initiatives, income generation and financial sustainability resulted in the commercial evolution of the Centre and the widening of its audience.

Perhaps the most significant, but frequently misunderstood, aspect of participatory video is that, for the local people involved, it is the process of communication that is vastly more important than the video product that is created. Instead of being used as a one-way broadcast medium, video can be used as a communication process tool which enables rural people to address their information and knowledge needs to achieve their development objectives.

In Africa, FAO is applying participatory video to rural and agricultural development based on experiences that have been successful in Latin America using an approach called "rural audiovisual pedagogy." This method uses participatory video as a communication tool for mediating between rural people's needs and the possible sources of information and expertise to respond to those needs. With local communities, this is achieved through the production and use of video documentaries and training presentations.

Used in this way, video can empower rural residents to actively participate in development by articulating their ideas and taking part in decisions; by recognizing the value of the skills they already possess while gaining new knowledge; and by planning and carrying out local development activities. Experience has shown that rural people who have benefited from participatory video training are more apt to address their own development problems, use newly acquired skills and knowledge, and act as development agents for neighbouring communities.

2.4 The Internet

The Internet represents the largest computer network in the world. In order to understand its potential to contribute to rural development and food security in Africa, it is useful to consider how it was created. The Internet emerged in the early 1960s, in the context of the Cold War, from research funded by the United States Department of Defense. It was designed as a decentralized computer network that was less vulnerable to nuclear attack than a centrally controlled system. A decentralized, "fail-safe" system was devised whereby computers sent packets of information from one computer to another across the United States. Alternative computer routes allowed the information to reach its destination in the event that one or more routes were destroyed.

Soon, new "nodes" or routes were added to connect researchers located at universities and colleges. A large community of users beyond the military began to use the network, which became increasingly personalized since computers could "talk" with each other through electronic mail. This popular utilization of the network foreshadowed what the Internet would become — an instrument of connectivity, not just of machines, but also of people.

Today, the Internet is a global "peoples' network" for communicating and sharing information. It consists of two powerful tools — e-mail and the World Wide Web (WWW). The WWW is the part of the Internet where a vast global information resource, or library, has emerged in recent years.

From its early origins, the Internet has become a vast and growing global network that people use to converse, debate, meet, teach, learn, buy and sell, and share virtually every type of information imaginable.

The success of the Internet in developed countries strongly suggests that it has great potential for development purposes. Like many communication technologies before it, the Internet enables rural communities to receive information and assistance from outside development organizations. However, unlike such mass media, the Internet is the first medium that allows every user to be a sender, receiver, narrowcaster and broadcaster. As such, the Internet offers opportunities for two-way and horizontal communication and for opening up new, non-traditional communication channels for rural communities and development organizations. Most importantly, it can support bottom-up articulation of development needs and perceptions.

Employing the Internet for rural development can potentially:

• reduce the isolation and marginalization of rural communities;

• facilitate dialogue among communities and those who influence them, such as government planners, development agencies, researchers, technical experts, educators and others;

• encourage participation of communities in decisions which impact their lives;

• coordinate local, regional and national development efforts for increased efficiency and effectiveness;

• provide information, knowledge and skills training in a responsive, flexible manner; and help overcome the physical and financial barriers that prevent agricultural researchers, technicians, farmers and others from sharing information and competence.

The information revolution

The information revolution offers Africa a dramatic opportunity to leapfrog into the future, breaking out of decades of stagnation and decline. Africa must seize this opportunity quickly. If African countries cannot take advantage of the information revolution and surf this great wave of technological change, they may be crushed by it. In that case, they are likely to be even more marginalized and economically stagnant in the future than they are today.

The World Bank, Increasing Internet connectivity in Sub-Saharan Africa, 1996

The quote above reflects the view of "cyberspace optimists" who believe that the Internet and other new information and communication technologies (ICTs) can help "leapfrog" developing countries — that is, allow them to jump generations of technological change, moving quickly from agrarian societies to information societies.

There are undoubtedly good reasons for the widespread belief that the Internet is a potent social and economic force. However, many observers caution that the new "information marketplace" will increase the gap between rich and poor countries and rich and poor people. While there is little doubt that the Internet is spreading rapidly in many developing countries, including those in Africa, it is also true that many developing countries lack the basic telecommunication infrastructure required for widespread Internet access.

One approach that is being explored by international and national development organizations for providing rural access to modern information and communication technologies is through "telecentres." These are shared information and communication facilities in isolated rural communities where people do not have the skills to use modern ICTs or cannot afford to use them.

Telecentres are relatively recent phenomena. The first ones appeared in Europe in the 1980s, where the idea spread quite rapidly. More recently, they have been established in some developing countries, for example, in rural towns in Brazil where plans are to establish several hundred in the next few years. Telecentres can provide access to telephone and fax services, e-mail, Internet and electronic networks, databases and libraries. They can also link the Internet to local media such as radio and television and thus make telecentre information accessible to wider audiences.

Telecentres should not be seen as just information technology centres. They can also facilitate local sharing of information and help create common, local development visions. Telecentres are not only facilities for single-point access to external information services (e.g., government marketing and price information) or to global information through the WWW, but are also facilities for organizing virtual village-to-village meetings and tele-training events.

It is important to realize that provision of ICTs should not be a goal in itself. Instead, the goal should be the introduction of telecentre facilities in an integrated effort to support community development. Telecentre pilot projects should focus on the adaptation of applications and content to the local context so that they are relevant to a particular area of development activity (e.g., medicine, education, agriculture) and the training of local telecentre support staff and users. For example, the agricultural and rural development applications of telecentres for improved food security should support activities such as:

• interactive and collaborative networks among government research and extension agencies, educational institutions, NGOs, input suppliers, product buyers, farmer organizations and rural media outlets;

• marketing information networks linking local market systems with provincial, national and global systems;

• agricultural distance learning and tele-training programmes; and

• specialised information networks for weather, environmental protection, disease and pest monitoring, famine and early warning systems.

Significant sums of money are being invested by governments, donors, development organisations and the commercial private sector to deploy the new information and communication technologies in Africa. In the rush to "wire" countries, it is important to recognize that the effective application of the Internet to rural and agricultural development requires an approach that focuses on enhancing information and knowledge sharing, both vertically and horizontally. If used effectively, the new ICTs can improve communication among rural communities and agricultural organizations that support them with research, extension and training for improved food production. The basis of such an approach is human resource

development and organizational capacity building for local use and management of Internet tools and resources.

3. The intersection of telecentres and communication media

We have explored these other media to make the point that telecentres, computers, the Internet, and the web do not replace radio, television, and other local media, but that they all become part of a system for helping people obtain information and communicate with each other and their communities. A project in Kothmale, Sri Lanka, illustrates this approach. Kothmale Community Radio started broadcasting in 1989 as a means for giving livelihood information to people who had been relocated because of a large dam project. In 1998 UNESCO provided funds to add an Internet component to the service. Three computer access points were established at different community centers, including the one at the radio station. The others are at community libraries. The radio station broadcasts a daily one-hour programme in which the programme producers interpret information from selective Internet web sites. Listeners also raise questions that the radio station answers by using its access to the Internet. In responding through its broadcasts, the material, of course, is re-packaged in language and style to fit the culture of the community.

We can see how telecentres can join with other media to provide a community service with benefits to those who are not able to access the more complicated technologies directly. For another example, we go to India and a visit to "Village Knowledge Centres." [4]

Village Knowledge Centres in India

Snapshot

In this village at the southern tip of India, the century-old temple has two doors. Through one lies tradition. People from the lowest castes and menstruating women cannot pass its threshold. Inside, the devout perform daily pujas, offering prayers. Through the second door lies the Information Age, and anyone may enter.

In a rare social experience, the village elders have allowed one side of the temple to house two solar-powered computers that give this poor village a wealth of data, from the price of rice to the day's most auspicious hours.

Some months back, Subrayan Panjaili, a round-faced woman who cannot read or write, sat in the courtyard of her small home in the village of Kizhur, in Pondicherry, with the family's only milk cow, Jayalakshmi. For five days and nights, the cow moaned while in labor. Something had gone wrong and she was unable to deliver her calf. Mrs. Panjaili grew ever more fearful that the cow would die.

"This is the only good income we have," she said, explaining that the four gallons of milk the cow produced each day paid the bills.

Word of Mrs. Panjaili's woebegone cow soon spread to Govindaswami, a public-spirited farmer who uses one name. The village's computer, obtained through the Swaminathan Foundation, is in the anteroom of his home. The computer is operated full-time and for no pay by his 23-year-old, college-educated daughter, Azhalarasi, who used it to call up a list of area veterinarians.

One doctor arrived that night and, by the light of a bare electric bulb, stuck his arm into Jayalakshmi, pulled out of the calf's spindly leg and tied a rope to it, then dragged the calf into the world.

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The Swaminathan Foundation has sought to give the four villages in its network other practical, highly local information, which is distributed through the village computer network in the local language, Tamil. Generally, that kind of information is not on the World Wide Web.

Description

Formerly called "information shops," the Village Knowledge Centres were established by the M.S. Swaminathan Research Foundation (MSSFR) in Chennai to take advantage of new technologies to provide information to the rural population on agricultural issues such as: health (availability of vaccines and medicines in the nearest health centre-preventive measures); relief information (issue of loans, availability of officials); inputs for agriculture (prices and availability, costs, risks and returns; local market prices for rural produce); transportation information; micro-meteorological information (relating to the local area); surface and ground water-related data, pest surveillance, and agronomic practices for all seasons and crops (based on queries from the rural families); and the maintenance and update of data on entitlements of the rural families (vis-à-vis public sector welfare and infrastructure funds).

The village information shops are operated by individuals on a semi-voluntary basis. Such individuals are identified on the basis of the following criteria: education (at least high school or 10 years of schooling); socio-economic status (marginal farmers are given preference); and age (preference is given to the 20-25 age group).

The group mobilization and credit programme of the biovillage project is used as a channel for identifying the operators. They are invited to a brief training session, lasting two days, conducted by the staff of the ecotechnology centre of the Foundation. The training session consists of demonstrations of the wireless instruments, training in its use — PC keyboard and mouse — and use of conditioned power supply. Based on performance, one person per village will be selected.

The equipment is provided to the operators on the basis of legally viable non-monetary lease agreements, and the operators are trained in all the basic operations of a computer — elements of word processing, spread sheets and HTML, basic operations such as e-mail and Web browsing, use of the radio modem, and general matters including basics of upkeep. The training and materials are in Tamil, the local language.

The "information shops" have been established in four villages: Kizhur, Mangalam, Embalam and Veerampattinam. The shop at Embalam is located on the premises of the village temple, which is owned by the community through an informal trust. In each shop, a Pentium PC with multimedia and a DeskJet printer have been installed in a specifically designed box to prevent rodent attacks on the instruments. The computer can be connected to the wireless network through a modem and a specially designed interface. The shop volunteers, at their discretion, write in more news from the locality.

The four villages are linked to the foundation's hub at Villianur through an ingenious wireless system. V. Balaji, a graduate of the Indian Institute of Technology at Kanpur, who oversees the project for the foundation, dreamed it up. The value addition centre acts as an exchange point for a variety of local-specific information. Each shop has a board to display bulletins received from the value addition centre. A local area network based on Very High Frequency (VHF) radio has been established with the Villianur office serving as a hub, handling voice communication as well as data.

While the foundation's model is relatively costly and may prove difficult to replicate on a large scale, the government of Pondicherry nonetheless plans to expand the project to 50 more

villages. The spread of this approach to more of India's 600,000 villages would ultimately require government money and manpower, with support from NGOs and philanthropies.

Background & context

Pondicherry, which was the administrative headquarters of the French territories in India, comprises 130 villages and the Pondicherry town, and is spread over an area of 1,000 square kilometers. Tamil is the language spoken with English and French as languages of the administration. More than 60 percent of the population of Pondicherry lives in the rural area. Dominant crops are rice and sugarcane. Approximately 20 percent of the rural families have been officially classified as living below the poverty line.

The Madras-based MSSRF was established in July 1988 as a nonprofit and nonpolitical trust committed to a mission of harnessing science and technology for environmentally sustainable and socially equitable development. MSSRF's research, training, communication, extension and networking programmes, in the fields of agriculture and rural development, seek to link ecological security to livelihood security in a mutually reinforcing manner. The Foundations projects include: Coastal Systems Research (CSR), Biodiversity and Biotechnology, Ecotechnology and Sustainable Agriculture, Reaching the Unreached, and Education, Communication, Training and Capacity Building.

The Pondicherry project was created by the MSSRF with a $120,000 grant from the Canadian government. The foundation provides villages with free technology and information in exchange for the villages' promise to house the computers and staff their operation.

Aspects of social change

India is becoming a laboratory for small experiments that aim to link isolated rural pockets to the borderless world of knowledge. Local governments and NGOs are testing new approaches to provide villages, where no one can afford a telephone, with computers that are accessible to all. A well-placed computer, like an irrigation pump or a communal well, may become another tool for development.

The village Knowledge Centre enables farming families not only to produce more without associated ecological harm, but helps everyone in the village to create a hunger-free area. The villagers themselves identify who are the hungry amidst them; 12 to 15 percent of the families fall under this category. They tend to be illiterate, and they are generally very poor without land, livestock, fishpond or any other productive assets.

Each day, the project's staff downloads a map from a U.S. Navy Web site that shows the wave heights and wind directions in the Bay of Bengal. In the fishing village of Veerampattinam, loudspeakers fixed to tall poles along the broad beach blare out the daily weather report. Fisherman, in loincloths, mending nets or repairing homemade wooden boats in the sultry heat, listen attentively.

Though the experience of the Village Knowledge Centres is still young, it foresees affecting several social changes: Improved access to markets through the availability of prices and marketing opportunities information; improved access to health infrastructure; increased exposure of rural youth and school students to computer-based networking; an increase in general awareness among youth through multimedia training and local-specific database creation using generic information available on the Internet and other networks; increase in awareness of ecologically sound techniques in agriculture and animal husbandry, leading to enhanced production, income and livelihood opportunities.

<u>Media & methods</u>

"From my long experience in agriculture, I find that whenever poor people derive some benefit from a technology, the rich also benefit. The opposite does not happen," says Professor S.M. Swaminathan. The goal of the Knowledge System for Sustainable Food Security is the empowerment of rural woman, men and children with information relating to ecological agriculture, economic access, and biological absorption and utilization. The Knowledge System aims to create conditions conducive to a healthy and productive life for all.

The project is based upon the understanding that *value addition,* by professionals or trained individuals, to networked information is a key step in enabling rural families to have accessibility. A small office in a centrally located village, Villianur, serves as the value addition centre, where the project staff scans the Internet, especially the World Wide Web, for useful contacts or technologies.

Each shop varies slightly in the way it is operated and supported. In Kizhur the volunteers were chosen by the Village Development Council, which also nominated a 23-member (14 men and 9 women) group to guide the shop's operations. At the shop in Embalam, all the volunteers are women in the 21-27 year age group; each of them spends half a day at the shop, rotating the schedule.

<u>Constraints</u>

The vast majority of Web sites are in English, a language that more than 95 percent of Indians do not speak. Nonetheless, the project has, since its inception, challenged this by translating and producing local contents in Tamil.

Poverty itself is a huge limitation. Only 12 public telephones and 27 private telephones exist in the project area, which covers 19 villages with a population of 22,000. Routine power failures and overloaded telephone lines make connecting to the Internet a frustrating proposition. There are serious questions about whether countries like India, weighed down by high rates of illiteracy and illness, should spend heavily to provide villages, that desperately need schools and health clinics, with what most would consider a luxury.

Project overseer Balaji notes that one immediate obstacle is that local bureaucrats are often reluctant to give up their monopoly on information, which can be a source of power used to extract bribes.

4. Lessons from the Village Knowledge Centres

This visit to south India illustrates several points that are important to telecentre staffs in other places. First is the conscious effort to involve diverse groups in the community in both the decision-making and the operations of the telecentre. The Village Knowledge Centres (VKC) sought out women, marginal farmers and other similar categories of people for active roles in the Centre.

Second, the VKCs developed partnerships in the community to share responsibility for facilities. In one case, the community provided the village temple as a VKC site. Partnerships with other centres helped justify the creation of the "value addition centre" that could serve a collection of VKCs. The partnership issue is so important that we will return to it a little later in this chapter.

Third, the Centres used their creativity to extend the computer network and timely information through other media (loudspeakers) to people who could not conveniently reach the Centre.

And, finally, the foundation of the Village Knowledge Centre is serving the varied information service needs of the community, from important weather information to contact with government officials.

4.1 Principles for partnering

Experience from around the world suggests that telecentres can benefit very much from partnerships with various kinds of groups and organizations. To provide support for telecentres in Canada, the government requires an application form that requires an organization to identify potential partnerships. As you have probably already realized, partnerships can be important in mobilising the resources needed to get started. Partnerships can also be important in continued support for the telecentre and for keeping in touch with important user groups. Northnet, a project in North America that provided distance education for rural school children, demonstrates some important principles for making partnerships effective. Northnet says that it "relies on its partners for success," so we have picked five of its principles that are most appropriate for telecentres.[5]

1. Seek partners institutionally predisposed to cooperation. Because cooperatives are "owned" by its members and governed by democratic principles, they are usually willing to hear any proposal that will benefit their community. They also are in the habit of cooperating with outside entities, particularly other cooperatives.

2. Seek partners with something vital to offer and gain. The strength of the Northnet partnership is partly due to each partner being able to receive at least one benefit absolutely vital to continued growth or survival and to give one or more partners the same thing in return. There is an extremely high level of interdependence. The more vital, long-term benefits that can be exchanged between partners, the greater the stability of the partnership.

3. Seek partners with a willingness to change. Though it may be hard to gauge, willingness to change is a necessary attribute for a partner. Partners will need to change their normal ways of doing business to accommodate the partnership.

4. Seek partners that can balance the motivations of solvency and public service. Public institutions tend to be focused on public service rather than solvency. Therefore, profit motivated organizations or fiscally irresponsible public institutions may not make ideal partners.

5. Seek partners with a long-term stake who are willing to institutionalize participation. This is important because then the partnership doesn't rely on key individuals for survival.

4.2 Summarizing the role of telecentres

Telecentres can be instrumental in the development and well-being of a community. Not only can they provide people with access to information related to health, nutrition, education and other social basic necessities, they can support local entrepreneurs with various business services, market information, and e-commerce opportunities; they can help people connect with distant family, friends, and government officials; and they can provide a setting for entertainment and social affairs.

We conclude this module with some simple reminders of "lessons learned" from telecentre experiences world wide:

1. Telecentres should concentrate on being demand-driven. This means that they should systematically promote the value of information and keep in close contact with all groups in the community so that they know what the information and communication needs and wants are.

2. Telecentres should think of their product as information and communication *services*, rather than information and communication technology. One of the important services is "adding

value" to network information and data bases that will make the information available from them relevant to their users. Another is making use of a variety of communication channels.

3. Telecentres should facilitate the use of their services as two-way communication channels for members of the community, making it possible for people to share their ideas with others in addition to gathering information from others.

4. Telecentres need to become part of the fabric of the community, in part by building partnerships and fostering participation and cooperation with other agencies. Building a community communication *system* with other media is an example of this cooperation.

5. Training is a vital part of the early life of a telecentre. Volunteers who help run the telecentre, a core of early, enthusiastic and visible supporters in the community, those attracted to the door of the telecentre, and staffs of local agencies all need to be on the priority list for training.

End Notes

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[1] The international agencies assisting the Nakeseke telecentre include: The International Telecommunications Union, UNESCO, IDRC, DANIDA and the British Council.

[2] Excerpted from Dragron, A. G. (2001). "Nakaseke Telecentre" in *Making Waves, Stories of Participatory Communication for Social Change,* New York: The Rockefeller Foundation, pp. 331-336. The original text was edited slightly to fit the needs of this manual.

[3] This article was reprinted as Van Crowder, L., Lindley, W. I., Truelove, W., Liboudor, J. P. and del Castello, R. (1998). *Knowledge and Information for Food Security in Africa from Traditional Media to the Internet,* Food and Agriculture Organization, Rome.

[4] Excerpted from Dagron A. G. (2001). "Village Knowledge Centres," in *Making Waves, Stories of Participatory Communication for Social Change*, New York: The Rockefeller Foundation, pp. 319-323.

[5] The principles are drawn from Gorenflo, N. (1998). "Effective Partnering and Leadership in Rural Telecommunications: Rural Distance Learning via Videoconferencing Telecommunication — the Northnet Experience," in Richardson, D. & Paisley, L. (eds.). *The First Mile of Connectivity,* The Food and Agriculture Organization, Rome.

MODULE 3
PARTICIPATION OF THE COMMUNITY IN YOUR TELECENTER'S OPERATIONS

In the 21st century, community participation will become increasingly important for various local enterprises. Organizations outside the community as well as the community itself can be expected to raise questions about how "participatory" your telecenter is. While participation is often approached in a philosophical way, it has very practical implications for a telecenter operation. Participation is important because it helps you decide what services to provide, and it affects who uses the telecenter, how relevant the telecenter is to the community, where you get dedicated staff, and whether the telecenter can survive.

1. WHY IS PARTICIPATION IMPORTANT?

The goal of participation is to increase the relevance of a project by using the knowledge, values and beliefs of people and groups within the community. The benefits of participation lie in its emphasis on the involvement of multiple and diverse stakeholders who often represent a range of perspectives and ideas, all of which should be given respect and consideration by telecenter staff. The diverse perspectives of individuals within a community serve not only as a reservoir of ideas concerning the community's ability to address its needs and desires, but also as a reservoir of skills and talents which can be used for taking action to fulfill those needs and desires.

Participation can lead to partnerships. Often another organization or group in the community will have resources that will be useful for the telecenter, and the telecenter might help those organizations on its goals.

Participation in a telecenter is both a means to — and an indicator of — sustainability. It is a fundamental *component* of most community-based sustainable projects, and it is also a *measurement* of the success of the telecenter in meeting community needs.

A word of caution: developing and using participation takes time and requires a high investment of energy, particularly in the beginning stages. While participation may initially seem inefficient and time-consuming in comparison to other methods of management, strong support of a participatory approach will ultimately result in a telecenter that ultimately is relevant and effective in meeting community needs.

2. ELEMENTS OF SUCCESSFUL PARTICIPATION

2.1 Involving a variety of stakeholders.

The key component to a successful participatory process is the involvement of the stakeholders who will use the telecenter, directly or indirectly. In most cases, this will include representatives of the *entire* community. Special attention and energy should be given to recruiting typically under-represented or marginalized groups (for example, poor people, women, minorities, the elderly).

A participatory process that only includes community members from the dominant class or favored sectors will not adequately bring attention the multiple interests and needs of the entire community, which the telecenter should try to serve. Some stakeholders may not agree with the inclusion of representatives from *all* community sectors; however, a successful participatory process involves not only including these under-represented groups, but also making them feel comfortable with the process and incorporating them as equal partners.

2.2 Evaluating community needs through continuous feedback.

Participation is an on-going process. A community is a dynamic body that constantly responds to new social and environmental conditions and often changes in the process. As such, the needs and desires of a community are also continually changing. To operate telecenters in the most effective way, telecenter managers must continually assess the needs of the community to ensure that the telecenter is up-to-date in meeting those needs. One of the best ways to ensure that the emerging needs are met is to *ask* the community. This is can be done, as we will discuss later, by making participation a part of the management policy of a telecenter.

Participation should not only be promoted, it should also be measured. By conducting regular needs analysis, telecenter personnel will be able to measure progress and identify areas of concern. A needs analysis in a community serves the double purpose of collecting outside assessments, as well as spurring participation. Through sharing their opinions in the analysis, individuals will, indirectly, be participating in the development of the telecenter. For more suggestions on how to conduct a community needs analysis.

2.3 Creating significant integration of the telecenter into community institutions.

One of the best ways to enhance the potential for telecenter sustainability is to combine efforts with already existing organizations in the community. This has several advantages. First, it integrates the telecenter into a pre-established social and organizational network, thus increasing the chances that the telecenter will become established as an important part of the community. Second, it works to ensure that the activities of the telecenter will complement – and not compete with – existing community projects. Third, the telecenter can provide services to the established organizations to aid them in their work and enhance their efforts.

Integration with these community institutions requires that the telecenter invite them to participate in the life of the telecenter. It is not by good luck that this happens, but rather by good design. We will address this issue later.

2.4 Raising awareness about the telecenter to the community.

Simply establishing a telecenter is not enough; supporters must actively "market" the *idea* that information is valuable and that the telecenter is the key to the benefits of good information and communication. Although seemingly obvious, it is important to note that community members must first become aware of the telecenter and its services before they will get involved in it. Telecenter managers must persuade their communities of the benefits to be gained through information technologies Focusing on the information, not the hardware, is the key to reaching much of the community that has a natural resistance to technology. Diffusion of *information* is the goal, technology is merely the medium. Advertisements in the local paper, on the local radio and/or television station, pamphlets, fundraising activities – these are all examples of basic marketing ideas that are discussed in more detail elsewhere in this manual. It is good to remember that a satisfied customer is the best advertisement there is.

3. GETTING STARTED WITH A STRATEGIC APPROACH

A starting point is for the telecenter leadership group to address some basic questions about participation in the telecenter program.

1. *Why* is participation important to this project? Among the answers might be: because it conveys a sense of community ownership; it provides indigenous wisdom; it helps reflect community values and will help us identify information needs; it provides important resources, such as volunteers or technical expertise, at a favorable cost; and some people need the

telecenter's services. Your telecenter team, which might be joined by representatives from various organizations in the community to explore this and other questions, can add to this list.

2. *Who* should participate? The answers may flow out of the first question, but they should be made explicit; it is not enough to say "the community." What groups of people should receive specific attention because of the possibility they will be marginalized — like women, poor people, minorities, the elderly? We'll note later how the nature of information technologies themselves can exclude people from participation and the potential benefits of telecenters.

3. *How* might people participate? The easy answer is to say that all can participate through use of the ICT facilities. But there are other potential facets of community participation in a telecenter: volunteers who oversee daily operations, tutors who give lessons, advisory groups for different aspects of the operations, people who provide links to other community organizations, and people who manage particular data bases and add value to information resources.

4. *How much* participation should be sought? Is maximum participation the goal, or should there be a target called *optimal* participation? Some would advocate a kind of participation where the community is fully responsible for the telecenter, from policies and management to raising money and caretaking. Local culture and people resources may dictate a more limited role for the general community. It is not hard to imagine situations where there can too much participation. Agreement needs to be reached on the how much issue.

5. *When* should participation take place? This depends on what kind of participation (the *how*) is being considered. It probably should begin no later than the time in the planning when participation itself is being considered. By putting participation into the planning and being specific about the timing avoids the "we know it's important but haven't got to that yet" defense.

6. *What incentives* can be offered? Benefits from the information services may satisfy many. Money and public recognition are important, but so too are special privileges regarding use of telecenter facilities or, for telecenter volunteers, discounts from shops in the community (which is a way that merchants can participate).

Other answers for some of these questions will come from the following discussion; some answers will depend on your own community's circumstances, and only you and your telecenter team can provide those answers. But it is important that the answers be addressed and incorporated in a clearly agreed upon plan of action for the telecenter.

3. OBSTACLES TO PARTICIPATION

Telecenters are an innovation and thus a stranger to the community. And a new telecenter in the community will mean a change in the way some parts of the community work. Some members of the community will welcome the telecenter with curiosity and fascination. Others will see it as a threat and an intrusion in a system that already has its time-tested traditional ways. In this section, we look at some of the obstacles that need to be addressed in getting widespread participation. We start by breaking up participation into individual participation and collective participation.

3.1 Individual participation. We need to think about the *uses* of the telecenter by a specific community and involvement of community members in telecenter activities. We can call this *individual* participation. What are the obstacles to this kind of participation?

1. Economic obstacles. Can the community pay for the services? Acknowledging that you must have a business plan for the telecenter's sustainability, you will need to consider what services people can people afford, and who might be excluded if there are charges for various services. Research and planning will reveal what services are feasible and affordable We can also ask another question: even if community members are able to afford the services, is the community willing to pay?. The approach we take may determine whether those who use the telecenter are participants or just clientele.

Box 4.1 In India, free and paid services

In an experimental telecenter project in South India, organized and planned by the Swaminathan Foundation and funded by the IDRC, the community is not ready to pay for information services. Telecenters provide a kind of information they think should be public and free. This perception is connected with the fact that many villagers are used to receiving government subsidies and they see the telecenter as a service that should be also supported by state funds. So the services are free. This removes the economic obstacle to participation, but what about the sustainability of the project? The villagers are being very creative in yielding solutions. They are trying to sustain the project financially through community banking practices and the support of self-help groups. The telecenter, as an information and training center which is at the root of self-help group activities and is the promoter of community banking opportunities, is seen by different community groups as essential for their activities. They keep most services free. A share of the money kept in the bank (probably in form of interests) would serve to pay a salary to telecenter volunteers and to maintain the equipment.

2. *Physical obstacles to participation*. Do community members have problems in accessing the center? We have to ask ourselves: where is the telecenter located? It is clear that if the telecenter is away from the usual community meeting points, it might hinder participation. In South Africa, the telecenter in the township of Mamelodi, in Pretoria, was originally located in the local library. Shortly after, they decided to move to an independent location. Esme Modisane, the telecenter manager, explains the reason why: "the library location was not appropriate because it appeared to the community as an official or government site. People were intimidated by the library and what it means; they think it is for 'intellectual people'. They do not feel it as *their own* community center if it is located within the library". In Hungary, the very rural nature of the movement usually means that there are few locations in a community where a telecottage can be placed, so it's the community that decides where it should be placed, in fact, *participating* in an important decision related to the telecenter's operation.

3. *Social obstacles to participation*. Are there any social (including gender and age) or ethnic reasons that impede the participation of some community members in telecenter activities? It may be difficult to engage some members of the community in a participatory process because they are marginalized, geographically distant, or very busy. The telecenter manager should make every effort to include these individuals by making their participation a comfortable and respectful experience. Additionally, the telecenter manager should be flexible, adaptive, and most importantly creative in encouraging these community members to participate In a community in Canada, locations had to be set up separately for young people and adults because each intimidated the other, thereby impeding both groups' participation. Because women are often discouraged from moving beyond the home, you need to give special attention to how they can become actively involved with the telecenter. For example, as part of a strategy to attract women to participate in telecenter activities in Pondicherry, India, the Swaminathan Foundation requires that at least one woman is engaged in the management of each center (for

instance, the telecenter in the village of Embalam is ruled by four female volunteers).

Box 4.2 Cultural factors in access

There is a story we were told in South Africa by Paula Middleton, a British Council official who is actively working on telecenters in that country. It is a story about computers. She explains: "The British Council demonstrated a telecenter at the Commonwealth Summit exhibition in Durban last year. It was very interesting to see the reaction from the public to visiting the telecenter stand. Indian visitors to the stand were confident with using the computers, whereas Black visitors needed encouragement to try out the computers and to navigate the Internet, not sure how the technology could be applied to their own experience. This experience seemed clearly to point to the heritage of previous disadvantage in this country and the challenges faced for the use of technology to enable equitable development. On the other hand, Black children felt very comfortable in front of a computer. And this fact clearly shows that entering the digital age is an educative process".

4. Political obstacles to participation. Some groups within the community may be unfriendly or even hostile to each other which can make effective collaboration among them difficult. The telecenter manager may not be able to eliminate these tensions, however, the manager may still be able to gather input form these conflicting groups by meeting with each of them separately. Are there political reasons that restrain the participation of some people? If a telecenter is politicized, it can create power struggles. An example is the first telecenter established by South Africa's Universal Service Agency, the Gasaleka telecenter, in the Northern Province. This telecenter, which is run by the local South Africa National Civic Organization, has very good links to community groups. All the organizations in the area support and work with the telecenter. According to the telecenter manager, Masilo Mokobane, "the telecenter is well-known, although we need to engage the tribal authorities more. However, we don't have problems with any organization. We do have problems with some individuals within those organizations, though, because they feel jealous of the resources we have here. But when those reticent individuals are informed, and know the telecenter is here to support the community, they help us. *The telecenter cannot be politically driven*, because it is for the community."

Associating a telecenter with a partisan organization such as a political party or religious group runs the risk of excluding non-members of those groups. There are also more subtle aspects of political power. For example, those people in power may discourage or obstruct the community's use of information technology because of potential challenge to their authority. In Mexico, we asked a school girl in a telecenter if her teacher encouraged her to use a computer for her school work. "No," said the girl, "the teacher is afraid of the computer because we might learn something she doesn't know."

5. Public awareness. Does the community know about the telecenter? The obstacle to participation here has two parts: awareness that your telecenter exists and awareness of what benefits there are from the telecenter. The second of these is the most challenging. It is illustrated by the woman in Nepa who raised the question "Our priorities are hygiene, sanitation, safe drinking water," said Supatra Koirala, who works at a private nursing home, "how is having access to the Internet going to change that?" In a Canadian community, just changing the name from a somewhat forbidding "Community Access Program Site" to "cybercafe" increased the visibility and use of the facility.

The question of benefits is closely related to how people in the community think about

the telecenter's relevance to them. In India, the Swaminathan Foundation is making a big effort in this direction: trying to make the telecenter relevant to the surrounding communities. As part of their telecenter project, they have established a *value addition telecenter*. This center collects and repackages information (thus making the information *locally relevant*) on a daily basis, and makes it available to a network of telecenters through a wireless communication system. For example, they placed a telecenter in the fishing village of Verampatinam where they found that many local fishermen, most of them illiterate, expressed the need to have timely information on weather forecast and wave height. To meet this need, the value addition center downloads everyday the weather information from the US Navy web site, translates it to Tamil, the local language, and then send it to the local telecenter as an audio file. These files are then played through several loudspeakers located in front of the center and near the seashore. In Hungary and Western Australia support centers package information for their constituents.

Some of the suggestions from the community may be difficult or inappropriate to implement within the telecenter. However, the telecenter manager should make every effort to respond to community needs and to gather ideas from the community. Being open and honest about the goals of the telecenter and the resources available will help align community expectations with the practical limitations of the telecenter.

Finally, is the community aware of the potential of ICT? As Richard Fuchs states, "people need to be encouraged to become involved in 'information-seeking behavior'. Simply put, people need to come to learn that it is worth their while to take the time and trouble to find information to help solve their problems.

6. *Technophobia* is one of the obstacles that prevents the community from getting involved in the activities of telecenters, either as users of the services or in other aspects of a telecenter's program. Continuous efforts to familiarize key people in the community with the processes is an important tactic. Young people, who tend to learn and value technology quickly, can be used as a path to getting parents involved. Training programs community health workers can not only get them involved, but also lead them to influencing their clients to use the services. Similar approaches can be made with teachers and extension agents.
How can we overcome these obstacles? Here we are dealing with marketing and awareness raising, with creation of value addition products (and this might be related to training issues), and with research and analysis related to the socio-economic dynamics of a community.

3.2 Collective Participation
Next, we need to think who is going to be involved in telecenter planning and management. We can call it *collective* participation. We are generally talking about community ownership, and so there can be community steering committees that set the direction of the telecenters and supervise the work of the telecenter manager. Some of the successful telecenter operations such as those in Australia, Canada and Hungary build this feature into their organizational structure.

We have to ask ourselves:

How well is the community represented in the steering committee? This question is difficult to answer, and it really depends on the community structure to decide what stakeholders should be represented in the committee.

What are the problems that this kind of management entails? We can see the example of the

Universal Service Agency (USA) telecenters in South Africa. The system permits not only joint decision making and evaluation, but also higher financial transparency. However, the added layers of ownership mean that decision-making is subject to bureaucratic layers. The effect of this is a less proactive style of management. Decisions cannot be made immediately, as and when they are needed. Besides, in South Africa telecenter applications submitted by community organizations are evaluated by a USA team. It is worth noting that "application-based systems are more accessible to the better-endowed, well-organized communities and groups, but are less effective in reaching marginalized groups, sectors and regions" (Stavrou et al., 2000).

4. PARTICIPATION OF WOMEN IN TELECENTER ACTIVITIES

There's a story about new information and communication technologies and rural development from Peru that urges us to think seriously the role of women in our telecenters. It comes from a recent issue of the Washington Post newspaper. The story starts:

> Until a brilliant sunny day when the Internet reached his Ashaninka Indian village in central Peru, tribal leader Oswaldo Rosas could think of few benefits modern life had brought to his people.

The story goes on to tell of how through grants from the Canadian government, the local telephone company, and a nonprofit organization, things were changed by the introduction of a computer, portable generator, a satellite dish and a big screen monitor. Rosas and five other tribal leaders received eight weeks of computer training which led to developing their own Ashanika web site (www.rcp.net.pe/ashaninka). With it they sold their organically grown oranges in Lima, 250 miles away, and boosted tribal revenue 10%. Now, Rosas' hut also doubles as a tribal cybercafe. (Faiola and Buckley, 2000)

So benefits from information technologies are reaching the Ashaninkas in Peru. But almost all of the middle aged women there cannot read or write (a situation common in the poorest Latin American countries and in other countries around the world), and thus they could miss some of the benefits of ICTs.

Jacques Diouf, Director-General, FAO, puts the issue of women's participation in sharp perspective:

> We live in the 'age of communication', but the full impact that information and knowledge can have on development is just starting to be seen. This is especially true for rural women, who shoulder much of the agricultural work and other rural activities in developing countries, where they are responsible for producing most of the food. Harnessing the power of communication- through traditional folk media, rural radio and, where available, television and the Internet- is critical both for us to learn from women and to help them learn new ideas, practices and opportunities. The use of modern communication technologies, integrated with local channels and networks, will enable more women to be heard and reached. A common challenge, for women and men alike, is to exploit the power of communication processes as a means of realizing their potential as well as achieving equitable and sustainable development. *Voices for Change,* FAO

The importance of women in relation to participation in telecenters is important enough that we must probe further. Silvia Balit, former communication special with FAO, wrote the following section.

Women's Access To The Internet

Exclusivity in access to the Internet has led many to brand it as yet another technology

that is available only to the wealthy and powerful elite in developing countries. The true picture is more complex, however, and despite its limited access, the Internet is making an impact. One consistent criticism centers on men's predominant use of the Internet. Access to information means access to power, and most societies continue to exclude women from both. Estimates suggest that the global Internet gender ratio has remained static for a number of years, with about 63 percent of users being men and 37 percent women. Less optimistic is the claim, made by the Association for Progressive Communications, that "male domination of computer networks" is as high as 95 percent.

For many activists, the concept of "cyberspace" is critical to understanding the importance of the new technology for women. "The issue of space has always been central for women and is highly sensitive, particularly in Africa," argues Marie-Helene Mottin-Sylla of the Synergy, Gender and Development Programme run by ENDA-Tiers Monde in Senegal. "The freedom to have access to spaces other than the bedroom and the kitchen, and to be able to act fully and safely in other public spaces is key to women's full participation in the world's future. Unless African women can participate fully in cyberspace, they will face a new form of exclusion from society."

Improving Women's Access to New Technologies
With the advent of the global information society, new communication technologies are increasingly being adopted as effective tools for reaching rural audiences. Yet the benefits of the information revolution are still much debated, particularly in the case of the developing countries. There is serious concern that the gap between the information 'haves and have-nots" will continue to grow. The bulk of information resources and technologies are in developed countries, which also control the content that they transmit. Unless developing countries acquire the infrastructure and resources to access these new technologies and generate their own content, they are likely to become more marginalized and isolated- economically, socially and politically.

The situation is even more serious for remote rural communities where basic communications infrastructure, such as newspapers, television, radio and telephones, is lacking. If the benefits of new technologies are to reach rural areas in developing countries, it is essential not only to increase rural populations' access to these technologies, but also to disseminate information in local languages and ensure that it is relevant to local development needs. Included in this challenge is the task of making the new communication technologies available to rural women and providing the skills and tools necessary for them to express their opinions and produce their own information.

Given the fast pace of the information revolution, it is not unrealistic to conceive of telecommunication infrastructures and information technologies becoming practical tools for the promotion of development in rural areas. We are not yet at the stage where all remote rural areas are connected to the outside world. However, through the Internet and electronic mail, it is possible to connect with local intermediary organizations, such as extension services, health centers, training institutions, local NGO's, farmers' associations and women's organizations which, in turn, can share information with rural people through traditional communication channels. International development agencies and national development partners are already experimenting with new information technologies and electronic communication networks for rural development, concentrating on how to make them more accessible to rural populations and thus bridging the 'last mile of connectivity"....

[Balit shows us how something as simple as the telephone can make a difference in the

lives of women.]

Village Pay Phone Project

In Bangladesh, the Grameen Bank has set a new trend in communications. The bank, which provides collateral-free micro loans to help the poor start up small businesses, has established a people-orientated, wireless communication system with the objective of promoting income-generating activities for the rural poor. The communication system is based on the Grameen phone, a wireless, cellular phone that poor rural people may purchase through a lease scheme. The leasers then charge other villagers a small fee for use of the phone, which thus takes on the function of a portable rural telephone booth. Hundreds of rural women are taking advantage of this development to create pay telephone services in communities that were previously without a telephone connection. As a result, Grameen Bank is helping rural woman to run their businesses since, through the use of the phones, they gain quick, cheap and easy access to suppliers, customers and market information. The bank believes the Village Pay Phone Project is the largest of its type in the world. It has already changed the lives of many rural women in Bangladesh, and the aim of the bank is to put at least one cellular phone in each of Bangladesh's 68 000 villages within the next six years.

Electronic Networking For Women's Empowerment

Today, the Internet's World Wide Web and electronic mail systems compromise a global "people's network" for communicating and sharing information. Women's groups and associations in developing countries are exploring the challenge's and possibilities unfolded by Internet applications and are beginning to invest in the use of these tools for promoting their interests. For example, in societies that have a long tradition of women traders, new information technology offers women improved scope for business ventures as well as the opportunity to collect and disseminate information within and beyond their national boundaries. In Ghana, communication centers with fax, telephone, copy machine and computer services have been operating since 1992. These centers are owned almost exclusively by women and serve many women clients.

Communication through e-mail networks helps reduce the isolation of women and offers opportunities to overcome many of the constraints that limit their capacity to address national and local development issues. Communicating with the international community as well as with each other, rural women's groups can gain access to information about best practices, appropriate technologies, ideas and problems of other groups with similar interests. Despite the greater access that women's groups and association now have to new information technologies, they are still underrepresented on most networks. Entering the new electronic frontier of cyberspace remains a challenge to most women of the world, not to mention rural women. The problems faced by women users include:

- the cost of access and lack of infrastructure, especially in the poorest areas;
- a lack of education in regions where women have limited access to schooling;
- insufficient women's training programmes covering the basic skills needed to master computer technology;
- language barriers- most of the networks are in English or French, which means that women's groups that act as information brokers for rural communities need to translate information into local languages.

Rural Telecenters

Rural community telecenters are part of another approach being used by development

agencies and their partners to extend access to the Internet, bringing it closer to rural communities and the intermediary organizations that provide services to these communities. Telecenters are shared information and communication facilities that provide communities with telephone, fax and Internet services as well as access to equipment such as cassette and video players, photocopiers and computers.

Telecentres can provide communities with knowledge and information from outside sources, which can then be integrated with local knowledge. For example, a telecenter can be used by a local health organization to collect information and develop material for public awareness programs on issues such as reproductive health, HIV/AIDS or female genital mutilation. Telecenters can be used by training institutes to obtain distance learning materials for supplementing courses offered locally for girls. They can also be used by communities to share information with other communities. For example, locally developed solutions for agricultural problems can be announced and shared with other communities with similar problems and agro-ecological conditions.

Furthermore, linking telecenter facilities with other media can increase the local impact of such centers, exchanging information with rural people who cannot access their services. If local radio stations broadcast information collected on the Internet, for instance, rural women who are unable to use the services of a telecenter may still benefit from the information made available through this electronic channel.

[Later in this module, we will offer a variety a steps toward making participation a reality, but here Balit addresses the special case of women.]

Communication – A Prerequisite For Successful Development

Women play key roles in the development of their communities. If lasting progress is to be achieved, women and men must have equal access to the resources needed for development and to the benefits it produces. There is no simple recipe to ensure successful communication in development efforts or for the advancement of rural women. Nevertheless, from best practices and lessons learned in communication for development over the past decades, the following guiding principles have emerged. [We list these in a form adapted to this module.]

1. If projects and programs for the advancement of rural women are to be effective, the planning phase should include a communication component designed to reflect their perceived needs and special conditions and taking into account women's active participation in traditional communication networks.

2. Listening to Rural Women. Communication efforts should begin with development planners listening to women and carefully considering their perceptions and needs, their knowledge and experience and their culture and traditions. Planners must take into account the reality of rural areas and the changes required to improve the livelihoods of rural women in ways that can be sustained.

3. A Holistic Approach. Communication efforts should cover all the multifaceted aspects of life in rural areas affecting women, including agriculture, the environment, health, sanitation, family planning, education and literacy. A holistic approach should be used to insure that women's concerns are integrated into research and extension programs.

4. Communication programs should be participatory and interactive, and special attention

should be given to the communication channels most suited to women.

5. A concerted effort should be made to harness the potential of the new communication technologies for sharing information and knowledge with women. Essential tasks include improving the quantity and accessibility of infrastructure, increasing the relevance of information to the needs of women, and training women in computer skills.

6. The training of women as communication specialists at all levels – from field workers to trainers and planners – is an essential requirement for successful communication efforts carried out by and for women. Training in the production and use of communication tools should be provided to women's organizations and community groups so that they can participate in programs for women and effectively communicate their own messages and concerns.

[End of Balit's section on women. The full document is *titled Voices for Change, Rural Women and Communication*, and be obtained from the Food and Agriculture Organization, Rome.]

EXPLORING STRATEGIES TO ENHANCE PARTICIPATION

It is important to put participation in perspective. Experience in the field teaches one quickly that in many social structures, participation does not happen spontaneously; and, when participation becomes a part of the creed of an intervention, its lack of specificity can cause confusion if not frustration. For example, in Canada, leaders in community access centers reported that participation was one of their goals but they had not been able to get to it yet.

Here are three ways to approach participation in a telecenter project *where the socio-political climate is supportive*:

1. Bring together the telecenter sponsors, supporters, community opinion leaders, and key telecenter personnel and systematically address the questions raised earlier (in Section 3, Getting Started with a Strategic Approach)
]
2. Make a commitment to training and have a comprehensive training program regarding the role of information and accessing it through ICTs. This starts with training the community about the significance of participation and the public's role in it. It extends to potential partners in community health, educational, agricultural, and governmental institutions, as well as local "civil society organizations." Obviously a significant effort needs to go into training telecenter staff, an effort that includes a range of skills from basic information needs assessment and information management to facilitating participation — all of which are intricately interconnected in a *system* of skills and attitudes.

3. Build research into startup and on-going operations. In their efforts to get the Internet hooked up and computers operational, often relatively little attention is given to assessing community information needs, including the felt needs of the people and *normative* needs (those seen, for example, by professionals). A continuous research program needs also to monitor on-going telecenter services to the community (and its perceptions about them), and try to measure impact. We have approached a variety of organizations – including e-commerce ones, whose success depends on meeting needs in the marketplace – about developing practical tools for these kinds of research without finding much enthusiasm and even less funding. Clearly, the extent to which there will be enthusiastic and continual participation depends on how telecenters are meeting community needs and the needs of partner organizations such as agricultural cooperatives, women's self-help groups, local government bodies, and small businesses.

Box 4.3 Participation in Hungarian telecottages

Underlying the success of Hungary's telecottage movement has been the explicit emphasis on the active participation of local level non-government organizations and the openness of telecottages to all the community. Participation is built into the system. For example, the Telecottage Association, a national non-governmental organization which supports telecottages, has set standards that organizations wishing to use the name "telecottage" must meet. This is called "The Telecottage Minimum." The first of its five criteria is the imperative that telecottages must operate under community oversight. Another point is that telecottages cannot serve only certain social groups, strata, clubs or organizations. They must be accessible to everyone within the community and outsiders alike.

When telecottages began in the mid-1990s using government administered foreign assistance, the emphasis was on being predominantly a community-level civic initiative (as compared to a national program), and applications required that the owner be a local NGO that could demonstrate support from the local government or private organizations.

The Hungarian telecottage movement saw about 200 telecottages in operation by the end of 2000 and by 2005, about 500 to 800 telecottages will blanket the country. The Hungarian model, with its formula of independent community ownership and private and public sector collaboration, is providing a model for other eastern European countries to heed in their transitions to democratic participatory government.

(Based on Bihari and Jókay, 1999)

Guidelines for strengthening participation in the telecenter

Based on observations in Africa and North America in particular, Don Richardson of Guelph University makes a strong case for participation as a foundation for sustainability, and identifies some practical lessons that we can apply to telecenters. He says, for example, that current evidence suggests that to achieve sustainability and success, rural telecommunications projects designed to achieve development goals must begin with the real needs of intended beneficiaries, and that projects that fully involve intended beneficiaries in planning, design and implementation tend to focus less on telecommunication infrastructure and gadgets, and more on basic communication and information applications that meet people's needs. This kind of planning approach, he notes, also yields improvements in the management of telecommunications operations and is directly related to improvement in the revenue received from the users of telecommunications systems.

While he writes about rural telecommunications systems in general, the following lessons provided by Richardson give us guidelines for translating the idea of participation into the reality of your telecenter.

Lesson 1: Start working with community organization leaders who instantly see the benefits of rural telecommunication services. Work with organizational leaders who are pre-disposed to collaborative, open and participatory communication approaches to community development. Do not expend too much time and energy attempting to convince organizational leaders who are pre-disposed to "turf wars," "empire building," and who demonstrate little regard for public participation processes. Their participation will follow, in due time, as rural telecommunication services gain popularity.

Lesson 2: Real, risk-taking community leadership and advocacy for rural telecommunication systems is not necessarily found within elected bodies, telecommunication operator

management and local government bureaucracies where one might normally expect to start looking. We should expect rural telecommunication champions to come from unexpected sectors of local, national and operator leadership.

Lesson 3: Provide many opportunities for women and young people to actively participate and volunteer their time and energy for practical and identifiable tasks that support rural telecommunication systems. Recognize and reward their efforts at every opportunity, and provide mechanisms to ensure that they can participate in key management or advisory roles.

Lesson 4: Provide human resource development support for rural telecommunication project management in the areas of project planning, evaluation, monitoring, facilitation of stakeholder participation, and leadership skills.

Lesson 5: Continuously remind all involved that, at its core, a rural telecommunication service has the dual goals of sustaining itself through revenue generation and supporting rural development.

Lesson 6: Rural telecommunication systems are unique and should be planned and implemented in unique ways, in consultation with rural stakeholders who best understand local contexts. Large, government initiated, top-down telecommunication systems that provide rural telecommunication services as an afterthought have a high failure rate, are generally unsustainable and can cost large amounts of money.

Lesson 7: Build an energetic steering committee to assist in infrastructure deployment and stakeholder engagement. Rural telecommunication systems are ultimately about people, not technology. Build a team of enthusiastic proponents who come from diverse backgrounds. Do not stack a steering committee with "techies," or "urban elites." Actively seek people who know more about rural communities than telecommunication systems.

Lesson 8: Always try to work with people who work with community-minded organizations or community development agencies. Their experience and contacts in the community will help ensure that you will find the resources and support you need. Good organizations with which to begin working include: service clubs, health clinics, churches, educational institutions involved with outreach and continuing education initiatives, libraries and non-governmental organizations involved in economic development. When linked together through improved communication systems, the power of such grassroots organizations can be multiplied by a hundred. At the same time they can use their telecommunication connections to enhance inter-agency collaboration, joint service offerings and joint planning.

Lesson 9: Use local technical and human resource development expertise wherever possible, and provide necessary training and capacity building where the expertise does not currently exist. The ability to access local technical expertise and local training services will significantly enhance sustainability.

Lesson 10: Take sustainability seriously rural telecommunication service must find creative ways to generate revenue. Advertising, value-added services, and reselling of network services to government bodies and large organizations are some ways to create the revenue needed to keep the network running. It is also important to recognize that it may be more important to address the sustainability of the improved relationships that rural telecommunication systems help establish, as opposed enhancing only the sustainability of the service itself. By encouraging stakeholders to use rural telecommunication systems to enhance relationships,

those relationships will provide the foundations for the sustainability of the system.

Lesson 11: Community ownership, management and involvement is important. Centralized telecommunication operators would be wise to decentralize rural service and enable the resale or franchise of service areas to local operators, cooperatives or municipal organizations. The more local the operator, the more likely the system will be responsive to user needs and facilitate sustainable revenues.

Lesson 12: Participatory community management will help a network thrive. Community members need mechanisms for influencing network management, system design, and the development of creative and beneficial applications. Local advisory councils can provide a great deal of support and advice to enable local operators to provide beneficial and profitable services.

Lesson 13: Provide opportunities for students and young people to learn about the technology and the community development potential of rural telecommunication systems. This too will enhance sustainability and the ability of the rural service to grow to meet needs, while creating new employment opportunities for young people, especially young people living in rural areas.

Lesson 14: Strategic marketing brings higher revenues, better service and helps reach rural development objectives. Operators that make an effort to understand specific clients and market services that meet their needs will be rewarded with profits.

Lesson 15: Train volunteers to train new users. Those of us who are used to using telephones may think that using a telephone requires no training. On the contrary, rural people who have had a few chances to use a telephone, or a more sophisticated telecommunication application, will very likely require an orientation period to become comfortable with the tool. Community volunteers can assist in training and orientating those who are least comfortable with the tools.

Lesson 16: Share resources, ideas and lessons learned with other rural telecommunication operators, advocates and supporters. Sharing lessons learned will help other rural telecommunication initiatives to find their feet faster.

Lesson 17: Enlist the support of "respectable wired elders." Within many nations, regions and organizations, there often exist telecommunication enthusiasts with influence or decision-making authority who, by virtue of age, wisdom and established credibility can lend significant support to specific development initiatives. These are the "respectable wired elders," because, unlike many of their younger peers, their voices and visions can capture the imaginations of "unwired" politicians, funding agency bureaucrats and private sector benefactors. They are often an untapped resource, but their support can add a fantastic boost to a project.

Lesson 18: Enlist the support of organizations with existing outreach networks and presence in rural communities. These organizations might include agricultural extension services, rural health services, rural and agricultural cooperatives and credit banks, farmers' organizations rural library systems, and rural women's organizations and rural youth organizations.

Lesson 19: Collaborate with radio, newspapers, and television services, both locally and nationally in order to build momentum and support for rural telecommunication initiatives and rural stakeholder awareness and engagement.

Lesson 20: Recognize that telecommunication policies seldom contain the elements that

actively and effectively enable the creative conditions, ownership models, interconnection agreements, and pricing arrangements that foster rural telecommunication services. Stakeholder engagement is one strategy to help change this if stakeholders can assume policy advocacy roles.

[These lessons were drawn from Don Richard's article "Rural Telecommunication Services and Stakeholder Participation: Bridging the Gap Between Telecommunications Experts and Communication for Development Practitioners" in Richard, D. and Paisley, L. (eds), *The First Mile of Connectivity*, FAO, Rome, 1998, pp. 14-35.]

5. SUGGESTIONS FOR ACTIVITIES

Now that participation has been defined, its importance has been emphasized, and elements of its success have been outlined, how can participation be implemented? This section offers suggested activities a telecenter manager can do in order to transform the fuzzy concept of participation into action.

5.1 Establish a steering committee

One of the first steps in establishing a telecenter is to form a steering committee consisting of members of the community. The steering committee can serve as the governing body or as an advisory committee. In order to establish this group of stakeholders, a telecenter manager needs to identify the important population segments of the community. These might include:

P individuals (local community members, tourists and regular transients, such as truck drivers, traveling salespersons, etc.
P small businesses

P schools
P youth and youth groups
P disabled people
P farmers
P women's groups
P religious organizations
P clinics, hospitals, and healthcare workers
P police
P civic organizations including cooperatives
P political parties
P government departments
P sports clubs

After identifying the sectors, you need to negotiate with those groups to provide a representative who will become involved in telecenter activities.

The roles of these committees will vary depending on the community and the culture of participation that exists. Among the possible roles are:
:
P set the directions, guidelines and strategies for the telecenter
P help secure funding and other resources for the telecenter
P seek new directions for the telecenters, where possible
P develop policies and procedures relating to membership, usage, data collection, financial management, other operations
P provide linkages to community organizations
P mobilize volunteers for regular and occasional telecenter operations and activities
P advise the telecenter staff on planning

You can add to this list. It is important that their be a clear understanding of what the roles of the members will be and what their term of commitment is.

Map out the community's assets
The idea of asset-based mapping comes from the belief that many in the community have talents or resources to share with others, and opportunities can be created where these can benefit the telecenter. We have seen situations, for example, where retired persons with a little computer experience have volunteered to provide training in computer skills for telecenter users. Special talents are often untapped because people may not realize the talents they have are special, unique, and valuable to others, or they may never have been asked to share their skills.
Community asset mapping includes everyone; it encourages conversation and creates an environment where people can become acquainted, relationships can grow and people become interested and motivated to support each other. Building this "skills and talent" registry can done early in a telecenter's life, even before specific needs are identified.

Identify local volunteers

Encouraging community members to volunteer at the telecenter is an excellent way to promote participation, and to establish community relationships. Volunteers could be used in many of the telecenter operations, from fundraising to running training sessions or marketing. If desirable incentives were offered (such as free Internet sessions, discounts on courses, etc.), many community members probably would provide their services for a few hours per week. Volunteers are helpful resources for sustainability, not only because of the cost efficiency, but because of their community relations and loyal enthusiasm.

Encourage activities that may not be technologically-oriented

In order for a telecenter to truly become enmeshed into a community it can step outside of the confines of offering only technology services. The telecenter should attempt to become an *information* center, not just a technology center. By taking on this broader, more encompassing position, the telecenter will open up the possibility for other activities. For example, in Western Australia, a small rural community lost its bank. Because the telecenter was recognized for its emphasis on meeting community needs, it was proposed as the location for a new bank. In such cases telecenters have earned a place in the fabric of the community. In other places, telecenters offer child day care camps, space for local self-help groups to gather (for example, farmers sharing crop knowledge, women sharing child care tips, etc.). In this way, participation in a telecenter comes naturally with a community's daily activities.

Summary

A telecenter that encourages optimal participation creates community interest. When individuals become involved in the planning and programming stages of the telecenter it no longer remains a foreign entity in the community. Participation engenders feelings of individual and community ownership. If the community is involved in the telecenter through participation in the planning and development stages, the telecenter will become integrated in their daily existence and therefore be of interest to them.

Also, participation helps to ensure that the technologies and services offered in the telecenter are salient to the community. The telecenter will most likely be unable to provide *everything* the community desires because of resource constraints; however, this is precisely why community participation is important. Decisions can be made that reflect the interests of the telecenter constituency. The degree of relevance of technologies and services is directly related to the degree to which the interests of diverse community members are heard and heeded.

One final caution. Participation is not always an accepted practice. We recall having approached farmers in a Central American country to get their participation in deciding what kind of programs should be broadcast on a new radio station. When we asked them what programs they wanted, one answered: "we're not used to be asked this kind of question. Come back in two days and we'll try to have an answer." You may find that the people and their leaders will need orientation and training in participation.

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MODULE 5
THE ROLE OF THE TELECENTRE MANAGER

> The telecentres that succeed do so, in the long run, because there is a community champion for whom the word failure doesn't exist.
>
> Richard Fuchs, *If You Have Lemons, Make Lemonade*

Your role is essential for the success of the telecentre. As you can read in this manual, there is a broad range of skills necessary to make your telecentre work appropriately. In this module, you will find an overview of issues that are important in the organization and daily functioning of your telecentre.

1. FIRST STEP: SETTING UP A STEERING COMMITTEE

One of the first steps in setting up a telecentre is to appoint a permanent **steering committee.** It will be responsible for guiding the whole process of starting the telecentre and then, on a long-term basis, for ensuring its continued success and development. Depending on the local legal requirements, the steering committee can serve as the governing body or in an advisory role. A steering committee will normally consist of members of the community who have a keen interest in starting a telecentre. Additional members of a steering committee may be appointed at a public meeting to which members of the community are invited.

It is usually not possible for a telecentre organiser or manager to have all the skills and experience necessary to set up a telecentre on her or his own. So a good organiser must be able to select and recruit people who have the skills that are needed to plan, establish and guide the operations of the telecentre.

1.1 A steering committee should be:

- **Representative** of the community.

- **Committed** to the community and to the telecentre.

- **Active** - steering committee members who only attend meetings and do nothing else are of no use to the telecentre!

1.2 The steering committee should consist of at least:

- The telecentre manager

- Representatives from the target group (or the broader community)

- Representatives from the local business sector

- Representatives from the education community

- One or more other professionals, preferably people with technology expertise, experience in finance and marketing, and legal expertise.

1.3 How many people should there be on the steering committee?

It can be difficult to arrange meetings and make decisions if there are too many people on the steering committee. However, it is important to have people with different kinds of expertise so that the needs of the community are clearly identified. This will help to make decisions about what services to provide initially.

Recruitment of committee members
Recruiting Committee members needs careful consideration. If there are gaps in expertise in the initial committee, people who have skills in that area should be approached to become members. Having some new blood on the committee can also provide new ideas. A cross-section of the community should be included.

The Western Australia Telecentre Network Toolkit

1.4 What kind of people will be on a telecentre steering committee?

Steering committee members can help the telecentre in different ways if between them they have the right mix of skills:

A. The manager
The manager is often the person who had the idea to establish a telecentre, but he or she can also be someone else appointed by the steering committee. The manager may come from any sector of the community.

B. Community representatives
You should never forget that a telecentre must serve the residents of the immediate or surrounding community, so community voices need to be heard on the steering committee from the beginning. This is very important, not only for identifying the most appropriate services, but also for generating a sense of ownership of the telecentre. Community representatives may be from school governing bodies, local NGOs or CBOs, religious institutions, community service agencies or street committees.

C. Business community representative
Representatives from the local business community may be able to offer special skills and expertise, and also possibly other business support. For example, a local technology manufacturer may be able to offer knowledge about computer hardware and software. A representative from a human resources company may be able to help with recruiting staff and developing staff training programmes. A representative from an employment agency may be able to help with planning a job preparation and placement programme.

D. Professionals
A telecentre needs professional advice and services at different stages of its development. For this you will need:

- **A technician** who can solve technical problems, especially with computers, and can assist with equipment maintenance and upgrades.

- **An accountant** will be needed to set up an accounting system for the telecentre. You need accurate accounting records to make sure that the telecentre keeps within its budget and plans properly to cover expected and unexpected costs. Only a full set of accounts will make it possible to set the prices for services to ensure that they are sustainable. The tracking and reporting of income and expenses will also be expected by any agency that provides a grant to a telecentre.

- **An attorney** will be needed to establish the telecentre according to the laws of the country; to advise on the terms and conditions of contracts and sub-contracts with partners; to review a telecentre lease; and to advise on insurance policies.

- **A marketing or public relations professional**, although rare in rural areas, would be an invaluable person to assist in the development of a marketing or community outreach plan and in long-term planning for the telecentre. He or she will also be able to assist with writing press releases, proposals and articles for magazines, and advise on how to approach local radio and television broadcasters.

Publicity

Publicizing the telecentre and what it offers is essential to its success. The committee needs to include people who have well developed connections with wide sections of the community. Word of mouth is one of the most effective marketing tools, and high profile business people or those in regular contact with the public during their daily activities can help achieve a strong result.

Publicity and promotions experience, such as the ability to write articles for newspapers and newsletters or help set up demonstrations and display stalls is also very useful.

The Western Australia Telecentre Network Toolkit

E. Representative from the educational community

Representatives from the educational community are important as this sector is often one of the biggest potential customers of telecentre services. Representatives may come from local schools and their governing bodies; community colleges; universities; libraries; museums; or adult education programmes. Steering committee members from the educational community will offer an understanding of how this sector works and what the possibilities are. They may also be able to identify volunteer trainers for the telecentre.

F. Other steering committee members

After a few months, the steering Committee may decide that other skills are needed. These may be fundraising skills or knowledge of equipment and the best equipment

suppliers. You may also need people with the skills to help renovate or adapt the telecentre premises.

1.5 What does the steering committee do?

Steering Committee's tasks include :

- Set the directions, guidelines and strategies for the telecentre.

- Help to obtain and secure start-up and on-going funding for the telecentre.

- Seek new directions for the telecentre, where possible.

- Develop policies and procedures relating to membership, usage, data collection, financial management and other operations.

- Observe legal requirements.

- Provide specialist advice.

The most successful telecentres are those that have a good working partnership between their steering committee and the manager. They work as a team. The committee is responsible for the on-going operational changes of the telecentre. The manager is responsible for its day-to-day operations.

1.6 Responsibilities of the steering committee:

A. Legal responsibility to the telecentre
It must develop an understanding of the structure of the telecommunications and Internet sectors in the country; develop the telecentre constitution and ensure that it is adhered to; take responsibility for any agreements with funding agencies and ensure that the telecentre adheres to local and national laws.

B. Responsibility as an employer
This includes signing contracts with the manager or other staff members; ensuring that tax deductions are made; negotiating arrangements with medical aid; providing funding schemes; ensuring that working conditions are safe; and seeing that staff are treated fairly and in accordance with legislation governing equal opportunity employment, unfair dismissal procedures, etc.

A telecentre manager will have more time for planning and undertaking new initiatives if members of the committee also take responsibility for some of the telecentre administrative and organisational functions. Organising meetings, preparing reports and ensuring that equipment is maintained can take a lot of time. If possible, members of the committee should volunteer for some of these tasks.

C. Responsibility to the community as a service provider
It must provide safe conditions for public access to the telecentre; maintain insurance policies on the telecentre building and equipment; and arrange for other insurance coverage as required.

D. Financial responsibility
It must ensure that there are proper accounting processes, that annual budgets are met and an annual audited statement is prepared. It must also ensure that a cash flow chart is maintained by the telecentre staff or manager and that monthly, quarterly and annual financial reports are prepared.

E. Responsibility for ensuring the on-going evaluation and monitoring of the telecentre.
To make sure that that the telecentre continues to be sustainable and provide for and anticipate the needs of the community, there must be an on-going process of monitoring and evaluation. Agencies providing grant funds or donations will require this.

2. WHAT DOES A TELECENTRE MANAGER DO?

A telecentre champion in South Africa
There are no roads to Gasaleka. The outside visitor spends two hours carefully and slowly driving on a path of swamped holes, stones and sand, surrounded by infinite extensions of palm trees, before reaching the first hut of the village near the borders of Bostwana. This remote village of mud huts and red sand lanes accommodates the first telecentre established by the Universal Service Agency.

In spite of some infrastructure and economic problems, Gasaleka Telecentre remains as one of the most active and vibrant in South Africa. The main reason for that vitality in the midst of daily adversity is Masilo Mokobane, the director of the project and a genuine telecentre champion. Mokobane is a telecentre visionary. From the first day, Mokobane has not only been fighting for the survival of the telecentre, but he has been entertaining new ideas to better serve his community through the use of new communication technologies. He remembers the day the Gasaleka Telecentre was inaugurated. "It was a great day for us. Everybody came to celebrate it."

The early success of the centre is partly explained by the computer training offered. Another factor is that there is no other place in the area to make a phone call. However, according to Mokobane, "the business is going down due to the problems we have with the telephones. Sometimes the phones are not working. And the customers say the calls are very expensive." When I arrived in Gasaleka, the three telephones were not working due to days of heavy rain.

Mokobane is nevertheless optimistic about the future of the project. Hardships do not shadow his enthusiasm. He is full of new ideas, and he explains them with a wide smile. One of his most innovative plans is the publication of a community newsletter. The villages that integrate the Gasaleka community are not reached or covered by any news service. "We have many news in Gasaleka, but they are not reported to the community," says Mokobane. The telecentre will not only work as a reference resource centre offering access to information and communication technologies, but it will take on a new role as an organisation for the production and dissemination of local information. "The telecentre can become the memory, the history of this community," explains Mokobane.

Raul Roman in *Making Waves,* by Alfonso Gumucio

Obviously, not all of the manager's tasks will be the same for every telecentre. However, there are certain essential functions that need to be done:

1.   Manage the day-to-day operations of the telecentre.

2.   Assist the steering committee in activities to meet the objectives of the business plan.

3.   Set up and maintain a logging system for using the computers and other equipment.

4.   Supervise and maintain the telecentre security system.

5.   Sign up users and introduce them to the telecentre.

6.   Show users and other staff how to use all of the telecentre equipment.

7.   Assist users who wish to enroll for distance education courses.

8.   Link to educational and other organisations in the community.

9.   Arrange tutorial and study assistance if needed.

10.   Organise self-help groups, orientation programmes and social events.

11.   Maintain suitable records for the telecentre.

12.   Be responsible for the management, supervision and appraisal of staff members, ensuring that they perform their duties in accordance with their job descriptions, or as specified by the steering committee.

13.   Keep up to date with all new developments in the community concerning education, training, technology, communication, information and business enterprise.

14.   Undertake training when necessary.

15.   In consultation with the steering committee and other relevant people, negotiate and co-ordinate employment and training opportunities for telecentre users when needed.

16.   Together with the steering committee, formulate, develop and review policies and procedures relating to membership of the telecentre, usage, data collection, financial management, and other operations of the telecentre.

17.   Ensure that all policies and procedures are implemented and adhered to.

18.   Promote the telecentre.

19.   Plan and co-ordinate activities to increase the number of telecentre users.

20.   Advertise the services offered by the telecentre.

21.   Identify and develop a network of users or potential users of the telecentre.

22.   Keep the community informed of the activities of the telecentre.

23.   Purchase appropriate hardware and software for the telecentre in consultation with the committee.

24.   Ensure that the facilities of the telecentre are maintained in good working order.

25.   Advise the steering committee of any future equipment and service requirements.

26.   Develop and maintain a database of community skills.

27.   Develop and maintain a database of potential funding agencies.

28.   Seek on-going funding for the telecentre by sending out fundraising applications, applying for government grants, etc.

29.   Initiate and maintain revenue-generating (money-earning) programmes to achieve self-sufficiency for the telecentre.

30.   Provide information, assistance and advice to telecentre users.

31.   Take responsibility for the administration of any money collected by the telecentre on a daily basis.

32.   Provide written reports to the committee, funding agencies, and others, as required.

33.   Together with the telecentre steering committee, be responsible for the on-going evaluation of the telecentre.

34.   Attend committee meetings and present monthly reports on the activities, usage and achievements of the telecentre and manager.

35.   Undertake additional tasks to benefit to the telecentre as directed by the steering committee.

3. DAY TO DAY MANAGEMENT ISSUES

3.1 Daily activities

It is recommended that the telecentre be inspected at opening and closing time as well as throughout the day. Make sure that the equipment is always working properly, that the facilities are clean and that the printers, fax machines and photocopiers are always filled with paper.

At the beginning and ending of each day, attend to the following tasks:

- Plug in and switch on all electrical equipment before the start of the business day. Check all telephones for a dial tone and, at the close of the day, generate a fax report of the daily business.

- Record the meter readings of the monitoring systems in the customer telephones, computers and photocopier.

- Check that the computers and printers are working.

- Record the number of spoiled photocopier and printer papers. Ensure that there is enough paper in the printer, photocopier and fax machine and that there is a spare supply of paper and toner.

- There should always be enough spare items for all the telecentre's needs for a period of time which is twice as long as the average delivery time.

- Service the equipment regularly; do not wait until it has broken down. Request assistance if needed.

- Keep the telecentre clean, and have any needed repairs made immediately to the premises, furniture and equipment.

It is important that the telecentre manager and staff frequently check the equipment so that customers do not find that the telephone, fax or PCs are not working properly. They may have travelled a very long way or urgently need the services. Those customers who encounter a breakdown may not report it. All customers should be asked when they leave if they are satisfied. They will know that their satisfaction is important,and, moreover, they might provide useful information.

A clean telecentre not only invites people to use it, but it also may lead to fewer breakdowns. Here are some important cleaning guidelines:

- Do not expose equipment unnecessarily to moisture, heat or water.

- Clean the equipment regularly with an anti-static cloth.

- Do not use cleaning fluid or furniture polish on the equipment.

The manager and staff need to know how to operate and maintain all the equipment in the telecentre. For example, they need to know how to replace a toner cartridge, carbon paper, and printer paper. They should also be able to recognise potential problems before they occur and, if possible, be able to fix them.

Servicing the equipment should be done on a regularly planned basis. Customers should be informed of the schedule so they can plan their visits accordingly. A technician should be called in to make repairs as a last option, but this action should not be delayed unnecessarily. This will keep down time (non-working time) to a minimum.

Three things must be done by closing time:

- Inspect and register the condition of the premises and equipment.

- Complete the daily report on the services rendered and the finances involved which will be submitted to the committee.

- Collect complaint and/or fault (breakdown) forms and add them to the daily report.

To ensure that a sufficient supply of toner, paper, floppy disks other materials can be maintained, follow these stock control and ordering guidelines:

- Record the use of and quantity of stock on hand.

- Keep track of delivery times after ordering. Keep a note of the delivery times for the various items because it will help you to maintain your stock.

- Order supplies early. Allow at least twice the expected delivery time. For example, if it usually takes two days to receive paper after ordering, you should place your order four days before you expect to run out of paper.

- Keep a list of suppliers, their addresses, telephone and fax numbers.

3.2 How to handle complaints

A customer who is not satisfied with the telecentre service may complain to you. Deal with a complaint in the following way:

- Always stay calm and friendly when dealing with a person making a complaint; never become angry. The customer is the most important person in the telecentre.

- Listen carefully and be apologetic. Acknowledge the customer's feelings and explain what action you will take to correct the problem. Thank the customer for bringing the problem to your attention.

- Learn to accept criticism — always stay friendly and try to solve the problem quickly. Be creative; apply emergency solutions as far as is reasonable.

- Don't avoid people who always seem to complain. Welcome them at all times. Do not regard complaints as a personal attack on yourself. Remain calm even if the customer is unreasonable. Focus on the problem, not on the person. Reward yourself for turning a difficult customer into a happy one.

- If you cannot satisfy the customer, do not hesitate to ask for help from the committee or the supplier concerned. Avoid delay. Act according to the guidelines in the section about equipment breakdown.

- Register all complaints on a daily basis.

- If the customer does not receive the service that he or she wants, do not charge a fee. The customer expects the services to be provided on a service guarantee basis.

- If reasonable, compensate customers for the loss of service by giving them extra service, attention and assistance. Re-send faxes or make photocopies for the customer, for example.

- Treat customers well so that they will want to return to the telecentre.

Although reporting complaints to the steering committee is done on a monthly basis, the committee should be involved immediately if there is an emergency. Handling complaints may differ from one circumstance to another. If the customers complain about the behaviour of the telecentre manager, the manager should take action to improve. If the customers complain about poor service because the equipment is out of order, it is the responsibility of both the staff and the manager to correct this.

Recording and reporting complaints are very important because it is through information that problems can be resolved and service improved.   See Appendix 3 for a sample complaint registration form.

3.3 How to handle equipment breakdowns

In order to keep the length of service breakdown to a minimum, all faulty equipment must be attended to promptly. For example, telephone breakdowns must be reported to the telecom operator or equipment supplier (or servicing company) right away. The supplier concerned must respond immediately and clearly state how quickly he will attend to the problem. In this way, services will be restored as expeditiously as possible.

Examples of equipment failure follow:

- Telephone line(s) out of order.

- Telephone set(s) out of order.

- Monitoring system of telephone sets out of order.

- Fax-machine not working.

- Photocopier not working.

- Computers or printers out of order.

When equipment fails, standard breakdown procedures should be applied as much as possible. You must clearly register breakdowns and the date and time when you requested repair, as well as the time taken to repair the faulty equipment. This information should be included in the daily and monthly report to the committee. This is important because if a supplier fails to meet the agreed service level, management should apply pressure on them — there will be a penalty or financial compensation as indicated in the service agreement. Thereafter, the suppliers will be more likely to respond to repair requests.

When something goes wrong, follow the standard procedures below.

- Explain clearly to the customers what is wrong and what can be offered them on a temporary basis.
- Establish all steps necessary to resolve the technical problem such as phone line repair, fax repair, etc. This will include informing the supplier. The telecentre manager should try to solve small problems him or herself.
- If possible, use a temporary emergency solution so that customer service can continue.
- Record and report breakdowns to the committee which, in turn, will put pressure on the suppliers to hasten recovery of service.

Emergency steps are sometimes needed in order to avoid customer dissatisfaction, especially when telephones or telephone lines are not available for the customers. Take the following steps to provide temporary emergency facilities:

- Temporarily dedicate the manager's telephone and fax line (if working) for the customers' use.
- Use a stopwatch to time and record customer calls.

This procedure is extremely important because customers should never be turned away if customer telephones or lines are out of order, and the counter-equipment is working properly. The customer is the most important user of communication facilities. See Appendix 4 for a sample form to report a breakdown.

3.4 Keeping financial records

It is necessary to record all financial transactions in the appropriate records and to preserve receipts and statements.

- Record charges for all services separately (telephone, fax, copiers, computer usage, printouts, scanned pages, etc.), with the payments received.

- Keep a daily cash book indicating all payments and receipts.

- Keep bank statements in a file.

- Determine daily profit or loss in a daily report based on income and expenses.

- Create a daily income and expenditure statement for the steering committee.

Note: The entries **must** be done daily, weekly, monthly and annually. Please refer to Appendix 1 for a sample daily report form on services and finances.

Other important duties related to the financial management of a telecentre are:

- Create a plan and a monthly budget.

- Open a dedicated bank account for the telecentre business.

- Pay all debts in a timely manor.

- Keep accurate records of all materials in stock and place reorders in proper time. In other words, know your inventory and always anticipate what you will need.

- Generate a management report on a daily basis.

Financial records
As you develop the financial records system for your Centre, the best rule is to keep it as simple, yet complete, as possible. Bear in mind the level of financial expertise of those who will use the records and the time involved to maintain them. An annual audit of the Centre's books is recommended; approach an accountant in your community to volunteer this service.

In terms of general financial management, it is recommended that forecasts and tracking be implemented for each area. In preparing fiscal forecasts, remember to make provisions for intermittent costs, such as repairs to equipment or furniture, replenishing supplies, and upgrades to hardware/software.

Canada Access Program Management Handbook

3.5 Monthly reports

The steering committee will need monthly reports in order to make decisions and offer guidance to the telecentre. The report must detail the activities and finances, plans to improve the telecentre and its equipment and problems such as complaints and frequent/serious faults, if there are any. Forward copies of your monthly reconciliation including the bank statement in the first week you receive them. Monthly reports should cover the following general categories:

- Services rendered.

- Revenues and expenses, specifying the different service categories.

- Overall financial statement.

- Consolidation of complaints and how they have been handled.

- Consolidation of faults or breakdowns and how they have been resolved.

- Status of premises and equipment.

- Any other relevant incidents and developments.

Create the monthly report from the daily reports and submit it to the committee. See Appendix 2 for a sample monthly report form.

From the information contained in the monthly report, the committee will be able to determine the progress being made by the telecentre, if and to what extent it is contributing to the livelihood of the people it serves, or whether it causes unnecessary problems.

4.   ESTABLISHING RULES

Every telecentre needs a list of rules for users and staff. The purpose of these rules is to ensure that every user gets the full benefit of the telecentre and that proper records are kept so that the telecentre can become sustainable in the future.   When users are aware of established rules, the manager and staff are relieved of repeatedly explaining them. The rules are to protect the telecentre and to protect telecentre users' rights to use the telecentre equipment productively and effectively.

Rules should make sense to the telecentre staff and to the community. For example, a rule stating there is to be no running in the telecentre is made to prevent accidents and avoid injuries. A no-eating or drinking rule near the fax machine, copying machine or computers will prevent food particles or liquids from spilling and damaging very expensive equipment!

Rules for using the telecenter should be displayed prominently on signs in the telecenter.   For example, a sign stating the rules for using the computers, TV and telephones will be useful. Fees for photocopying, faxing, telephoning should be posted. Signs labelling rooms set aside for specific purposes will also be helpful. Each telecentre will be unique and will post signs differently.

Every telecenter user should sign and agree to a list of rules. Following is a sample list.

When you sign in, you agree to abide by the following:

1.   All users must sign in before sitting down to use the equipment.

2.   All users must pay for the services they receive from the telecentre.

3.   No food or drink is allowed near the computers.

4.   If the application you are using has sound, please make sure that you turn it off or use headphones.

5.   Users under the age of 14 are welcome to use the telecentre until 17:00 only.

6.   An adult must accompany children under the age of 10.

7.   Adults and youth have equal access rights to the computers when they are both present in the telecentre at the same time.

8.   Telecentre staff and volunteers reserve the right to ask anyone to leave the telecentre at any time, for any reason.

9.   Users who copy software from any of the computers or who intentionally delete or alter the contents of a computer's software will not be allowed to use the telecentre again.

10.   Telecentre users should be sensitive at all times to other activities taking place. They should not make noise and should not interfere with other telecentre users.

11.   At closing time, telecentre users should complete what they are doing quickly and leave the premises.

12.   Computers can be used only during the hours prescribed. If you arrive too early, please wait in the reception area (or outside).

Note: The contents of this module were adapted from *The Telecenter Cookbook from Africa*, UNESCO.

Appendix 1. Daily report forms

Daily revenue statement

Paid services	Number	Amounts
Customer visits		
Calls made		
Impulse calls made		
Calls received		
Impulse calls received		
Faxes sent		
Impulse faxes sent		
Faxes received		
Impulse faxes received		
Copies made		
Sheets scanned		
Pages printed		
Hours computer usage		
Internet and e-mail		
Total revenue		
Missed payments/run-aways		

Daily expense statement

Expenses	Amounts
Deliveries of commodities, spares, etc.	
Telephone	
Rent	
Water and electricity	
Stationery	
Salaries/wages	
Security	
Petty cash	
Sundry expenses	
Cleaning	
Other office cost	
Totals	

Daily cash flow statement

Cash operations	Amounts
Cash position at opening	
Amounts received (= total services above)	
Cash withdrawal from bank	
Cash deposits to bank	
Payments made (total expenses above)	
Calculated cash position	
Realised cash position at closure	
Cash difference	

Appendix 2. Monthly report forms

Monthly income statement		
Telecentre:		**Month:**
Services	**Number**	**Income**
Telephone calls made		
Telephone calls received		
Faxes sent		
Faxes received		
Photocopies		
Scanner		
Computer printing		
Computer usage		
Internet and e-mail		
Total income		

Monthly expense statement		
Telecentre:		**Month:**
Categories	**Number**	**Income**
Telephone/fax impulse		
Rent		
Water and electricity		
Stationery		
Salaries/wages		
Security		
Petty cash		
Sundry expenses		
Cleaning		
Repair of premises/furniture		
Repair of equipment		
Commodities and spares		
Various office expenses		
Total expenses		

Monthly cash flow statement	
Telecentre:	**Month:**
Description	**Amount**
Cash position at start of month	
Total income, total amounts received	
Total expenses	
Bank deposits	
Bank withdrawals	
Payments to community	
Calculated final cash position	
Realised cash position at month's end	
Cash difference	

Appendix 3. Complaints form

Telecentre complaints registration form	
Name of telecentre	
Name of telecentre manager	
Date and time of complaint recorded	
Complaint description	
Name of complaining customer	
Recommended action	
Action taken	
Complaint settled date	
Solution	
Complaint forwarded to	
Customer compensation (if any)	
Special remarks or notes	

Appendix 4. Breakdown registration form

Telecentre equipment breakdown registration form	
Name of telecentre	
Name of telecentre manager	
Date and time breakdown recorded	
Equipment breakdown description	
Recommended action	
Action taken by manager	
Information forwarded to supplier	
Date and time of forwarding	
Date breakdown corrected	
Solution	
Complaint reported to	
Estimated damage	
Repair cost	
Special remarks or notes	

MODULE 7
MARKETING YOUR TELECENTRE

It is essential that you create a good image for your telecentre and that you make sure that your community and any potential user or partner knows about your telecentre. In other words, you need to market your telecentre. The marketing skills described in this module will give you the basic tools you need to start this process. However, in marketing there is no magic formula for success. Sometimes you may need to make more than one attempt before you succeed in achieving your objective. The important thing is to learn from your experience and build that into your future marketing activities.

Awareness building

Awareness building about the telecentre can never stop. As there tends to be an "out of sight, out of mind" disposition among many metropolitan institutions, the telecentres in rural areas must remain visible to key national institutions throughout their operating life.

Awareness building is also necessary within the community itself. Some segments of the community will tend to be more attracted to the telecentre in the initial days of operations while others will be intimidated by the technology and will stay away. The telecentres will continue to have to work hard to overcome people's fears about learning how to make the technology work for them.

Richard Fuchs, *If You Have Lemons, Make Lemonade*

Stories from South Africa

The Mamelodi Telecentre. In Mamelodi, a township of Pretoria, the Mamelodi Community Information Services (MACIS) tried to involve the community from the beginning. "We listen to the community to know what they want," says Esme Modisane, the telecentre manager. "We are very community rooted, we understand the dynamics and issues in the community; we have training in community work and facilitation, and we have good community networks." Yet, social exclusion is still a problem: "It is true that illiterate people do not usually come to the telecentre."

Esme prepares workshops in several community organizations to present the services offered by the telecentre. These presentations are informal, according to the manager. She says that people in the community "are afraid of formal procedures; they don't like them, they don't like to read our projects on paper. Open discussions are more fruitful."

The Gasaleka Telecentre. In Gasaleka, an isolated rural area near the borders of Bostwana, "people are not aware of what is happening in the telecentre," says the Gasaleka telecentre manager, Masilo Mokobane. To solve this problem, Masilo has employed seven young agents that will inform the community about the telecentre and its services. It is a kind of proactive marketing: "I want to engage the school principal and appoint him as marketing director," says Masilo. The telecentre already has very good community networks. And Masilo is aware of the social role of the project he manages: "the telecentre cannot be politically driven because it is for the community."

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1. BASIC IDEAS FOR A MARKETING PLAN

This section gives a step-by-step description of what you need to think about and do to market your telecentre successfully. Regardless of whether you use advertising, public relations, events or promotions to market your telecentre, these skills apply.

Each step leads to the next one, so it is important that you understand each of the steps well.

1.1 List your objectives

The first step in good marketing is to list what your marketing objectives are. You need to think about this carefully before doing anything else because it will determine everything that you do later.

A marketing objective is a simple sentence or statement that describes what you want to achieve. There are many possible marketing objectives. What you choose as your objective depends on what your needs are.

Take note that a marketing objective is very specific and can be met by using marketing activities. "To improve the customer service provided by my telecentre" and "To upgrade the equipment in my telecentre," for example, are general statements and not marketing objectives.

Examples of marketing objectives include:

- "To inform *90%* of the villagers in my community about the services provided by my telecentre."

- "To convince at least *75%* of the community leaders to support and endorse my telecentre."

- "To get *all* the local newspapers to write about the launch of my telecentre."

You will notice that we have emphasized the numbers in the above objectives. Setting quantitative goals is very important when you write marketing objectives, as it allows you to measure how well you have done later.

You may have one or several marketing objectives. However, the more objectives you have, the more time, effort, and money you are likely to need.

1.2 Identifying your target audience

Once you have written your marketing objectives, the next step is to identify your target audience. The target audience is the person, group of persons, or organization that you wish to attract. Ask yourself: "Whom do I want my marketing effort to reach?"

Your target audience could be government officials in the agriculture department. It could be the housewives in your local village. Or it could be liaison officers in any number of non-governmental organizations (NGOs). The more exact your description of

your target audience, the better it is. An example of a very exact target audience description could be "literate housewives between the ages of 21 and 40 in my village."

Sometimes you may have more than one target audience. For example, you may want to reach literate housewives in your village AND their husbands. It all depends on what your objectives are. If you are unsure whether you need more than one target audience, go back and refer to your objectives.

In cases where you have more than one target audience, it is helpful to divide them into "primary" and "secondary" target audiences. You will spend more time, energy and resources on your "primary" target audience. But you also need to pay some attention to the "secondary" target audience for your marketing to succeed.

In the next section, you will see why it is so important to know who your target audience is.

Note. For you to identify your target audience effectively, you will also need to know ABOUT them. This means that you may need to spend some time talking to and observing them. Also, you could find out more information about them through other sources such as your community and media such as books, newspapers, and television programs.

1.3 Developing your message

Once you know your objectives and your target audience, you can proceed to develop your message. This is the heart or central part of your marketing program. What is it you want to communicate to your target audience?

What your objectives are, and who your target audience is will determine how you develop your message. Now you understand why the first two steps are so important.

There are three general types of messages:

- Messages that inform (i.e., contains facts and data)

- Messages that persuade (i.e., makes emotional and intellectual appeals)

- Messages that combine both

If your objective is simply to increase awareness of your telecentre, then you will most likely use a message that informs. But if your objective is to convince village leaders to support and endorse your telecentre, then it is very likely that you will need a message that both informs and persuades. Generally speaking, messages that both inform and persuade are the most effective.

Style
Who your target audience is will influence the style used in your message. For example, if government officials are your target audience, it is usually more effective to use a formal communication style. On the contrary, you will probably need to use a colloquial style if farmers are your target audience. Ultimately, the style you choose will be one that your target audience is most comfortable with.

<u>The Unique Selling Point</u>

We now turn our attention to what is the most important idea in developing a message — the Unique Selling Point, or USP. All effective messages have a USP. What is it?

A USP is the single, most compelling idea in your message. It is usually short, simple and memorable. Imagine if you had only 15 seconds to tell your entire message to someone who has never heard it before. What would you say?

Again, you need to keep in mind who your target audience is. The most compelling idea to you may not be the most compelling idea to your target audience. Imagine for a moment that you are your target audience. What USP would have the greatest appeal to you? Getting the answer to this question may require some research. But it is worth the effort.

The USP is the key thing that your target audience remembers about your message. Very often, it is the only thing that they remember. That is why USPs are so important.

1.4 Choosing your medium

To reach your target audience with your carefully crafted message, you need a medium or channel.

There are two basic types of media or channels: mass and interpersonal. Mass media includes television, newspapers, magazines, radio and other information sources. Interpersonal channels are groups of people sharing information, usually in a face-to-face setting.

Mass media is highly effective for creating general awareness, but interpersonal channels are usually more effective for promoting attitude or behavioral change.

<u>Mass Media</u>

Each mass medium has its own characteristics. Again, which medium you decide to use depends on your objectives and target audience. Television and radio are most effective if you wish to reach an illiterate audience. Newspapers and magazines are suitable for a literate audience and tend to be more informative and detailed than television and radio. Characteristics of the three primary mass media are summarized below:

Television:	Immediacy
	Excellent for demonstrating things
	Highly engaging—combines visuals, sound, text, and motion
	Broadcasts are tied to schedules
	Fleeting (i.e., once the announcement is over, it is over)
Radio:	Immediacy
	Very wide reach
	Programming is highly localized and relevant to the community
	Broadcasts are tied to schedules
	Fleeting
Newspapers:	"Not same day news"
	Contains much more detailed information
	Can be read anytime, anywhere
	Relatively permanent

Besides these characteristics, you will also need to consider media reach. In other words, how many people in the target audience does your selected medium reach? There is no fixed answer as the number varies from one place to another. Naturally, you will want to choose the media that reach the greatest number of your target audience (assuming that your budget allows).

Non-Mass Media

Alternatively, you may also look at non-mass media such as brochures, booklets, posters, and flyers. They have the advantage of being cheap and fast to produce. In fact, you could even produce these marketing materials yourself with some basic equipment such as a computer and printer.

Interpersonal Channels

Marketing through interpersonal channels depends on something called "word of mouth." What this means is that you communicate and spread your message by getting people to talk about it to others. Sometimes, this involves giving incentives to people to talk about your message, and sometimes it doesn't.

Point to note: "Word of mouth" is most effective when you can get someone who is respected and trusted within the community network to "evangelize" your message. Because it comes from a respected and trusted source, your message has a higher chance of being accepted and spread further.

1.5 Producing your marketing material

It is beyond the scope of this chapter to discuss specific marketing communication techniques such as video, film, audio, or print production. Although it is possible to develop your own basic marketing materials such as flyers and brochures, the task of mass media production is best left to specialists working in advertising, public relations, or multimedia production agencies. However, some government and non-government agencies may also be able to offer the expertise and the required production facilities.

1.6 Planning your budget

When planning your marketing, it is important to keep your budget and media/production costs in mind. Media costs, especially for television advertising, can be extremely expensive. That is not to say that you cannot do anything with a small budget. One solution is to produce your own materials — flyers, brochures, and booklets — with your own equipment. Another solution is to barter for free or discounted use of media or production services with something that the agency or media wants from you. Use your creativity and do some research to find this out. And third, you may use the power of the media to your advantage with public relations — the topic that we turn to next.

1.7 Public relations

Public relations refers to practices that aim to influence public opinion in favor of the telecentre. Public relations (or PR, in short) can take many forms such as media relations, events (see the box "Planning the opening event" at the end of this section), or sponsorship and charitable donations. However, we will focus on media relations as it can be a very effective tactic for a telecentre with a very limited budget.

Establishing a good working relationship with key members of the media is an important part of any marketing plan. There are two main differences between media relations and other forms of marketing:

> a. Media relations is usually free (whereas you need to pay for advertising and promotions)

> b. The outcome of media relations — media coverage — is more persuasive to your target audience than other forms of marketing, as it is perceived to come from a neutral, independent source.

What are the keys to successful media relations? We summarize them in four points:

1. You need to identify the newspaper, television, radio, and magazine editors and writers who report about social, community, or technology-related subjects. These are the persons who are most likely to be interested in writing about your telecentre.

2. You need to decide what your story angle is. The media are interested in news — information that is current, significant, and relevant to the community. They are also generally interested in personalities, "success" stories as well as big or unusual events. Examples of story angles include:

- Local governor to be present at launch of telecentre ("Personality" and "Big Event")

- Telecentre will indirectly create jobs for X number of people ("News that is significant and relevant to the community")

- Telecentre gets support and funding from the World Bank ("Success Story")

Different media have different information needs and interests. For example, a business newspaper will be more interested in the economic impact of the telecentre, its

business model, and so on. So you need to fit the story angle to the information needs and interests of the media you have in mind. Treating the media as your target audience will make your task a lot easier.

A few practical ideas
You should know that:
- Reporters are motivated by having a story that 'scoops' or beats other news media.

- Reporters work on very short deadlines. If you call and the reporter says a deadline is pressing, offer to call back at a more convenient time. If a reporter calls you, return his/her call promptly.

- Reporters need information that is accurate, timely and complete.

You can assist reporters by suggesting feature ideas. Always remain courteous and don't push ideas. If you are contacting the reporter, be ready with a list of people who could be contacted for an interview. Do whatever you can to help the reporter find what he/she needs.

News releases should always be direct and to the point. They should provide the "who, what, when, where and why" of the story in the first sentence. The standard press release is clear, easy to read and understand, and carries the name and phone number of a contact person who will field media calls.

Practical PR, The Basics, USAID

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3. Make contact with the editors and reporters and "sell" your story angle to them. It may take several attempts before you succeed, so do not be disappointed if you get rejected the first time. Editors and reporters have many other stories to write each day and it may just be that something more important caught their attention. Treat the media as your long-term partner — an editor or reporter may not write a story about your telecentre today, but he may write something tomorrow or a week or two later. The biggest mistake to make in media relations is to take a short-term approach and harm the relationship by becoming demanding.

4. Continue to "feed" story angles to the media as they come up. Maintain an ongoing relationship with them. The media appreciates that (as long as you do not bother them with unimportant, irrelevant information). You never know when they may write something about your telecentre!

Remember: make sure you are accessible to the media. If they cannot reach you when they need to, you may lose the chance to have free coverage. Always return phone calls, faxes, or letters from the media.

An example. Planning the opening event
If the Telecentre is planning an opening event:

- Invite a high-profile person from the community to open the Telecentre such as the President or the Deputy President, a local MP, or the director of a funding agency.

- Send invitations to every community organisation you can think of, as well as to local government representatives and representatives of the business sector. These invitations should be sent out in good time so that people have at least three weeks to respond.

- Make sure that all local media are invited to the opening day.

- Arrange a programme for part of the day. This might include an opening speech, a demonstration, refreshments, etc.

- Make sure that plenty of photographs are taken.

- Make sure that a member of the Steering Committee or the Management Committee is available to welcome guests.

- Ensure that all the people who attend the event register as they arrive so that their names, addresses and contact details are recorded. Specific forms can be drawn up, which will include space for visitors to note which Telecentre service they are most interested in, and any other comments they might have about the opening of the Telecentre. These comments can be included in articles and in displays of the opening event.

- After the opening of the Telecentre, it might be a good idea to mount a display, including photographs, in the local library, shopping centre or community centre.

The Telecentre Cookbook for Africa, UNESCO

1.8 Building a marketing toolkit

One of the most important things to develop in any long-term marketing program is a marketing toolkit. The marketing toolkit is a box, file, or cabinet containing the key marketing information and materials that you are likely to use again and again. It saves time and energy by housing in one place all the basic tools you will need in marketing your telecentre.

For a start, your marketing toolkit may include the following (the list may be expanded as your marketing budget and scope increases):

1. Telecentre fact sheet
2. List of editors and reporters with contact details
3. Photographs
4. Samples of existing marketing materials (if any)

The telecentre fact sheet is very helpful in providing the media and other stakeholders with basic facts about your telecentre. It should include information such as:

1. Number of telecentre staff
2. Type of services offered
3. Type of equipment offered
4. Size of telecentre (i.e., how many people it can house)
5. Address
6. Hours of operation
7. Contact details

Note that the fact sheet should not be more than 2 pages.

Photographs are very useful, especially when a newspaper or magazine is writing a story about your telecentre. Editors and journalists may not always be able to send a photographer to your telecentre, so having your own collection of photographs will make their jobs easier. The photographs could be of:

1. Outside view of your telecentre
2. Your telecentre facilities
3. Telecentre customers using your facilities and services
4. Telecentre staff servicing customers
5. You and your management team

For your marketing toolkit to serve you effectively, update the information and materials in it regularly.

2. SOME PRACTICAL MARKETING IDEAS

To get you started on your marketing program, here are three ideas you could carry out very easily, quickly, and cheaply:

2.1 Advertise on bulletin and notice boards

You can very easily produce a one- or two-page advertisement for your telecentre using nothing more than a computer, printer, and paper. Place your advertisement on bulletin and notice boards in places where members of your target audience are most likely to visit. Examples include universities, schools, community centers, churches, temples, mosques, marketplaces, government and private office buildings. Very often, you can post your advertisement free of charge or for a very small fee. Sometimes, all it takes is the permission of the person or group that manages the place.

If at all possible, include a picture of your telecentre in the advertisement. It has been shown that using pictures makes marketing messages more effective.

2.2 Customer-get-customer scheme

In this scheme, you will offer some reward to a current customer who can attract and bring *new* customers to your telecentre. For example, for every 3 *new* customers a current customer brings in, you will give the current customer a free phone call. The

exact reward that you offer will depend on what resources you have and on what your potential customers want. You do not want, for example, to offer something that will cost you more than what you expect to earn from the new customers.

The scheme is "free" in the sense that your current customers do the marketing for you — by "word of mouth," something we discussed in an earlier chapter.

2.3 Barter program with the media

Much of mass media advertising (e.g., television, newspaper, and radio) is not cheap. However, you may still be able to make use of mass media advertising without paying very much money — by bartering with the media organization. The idea behind this is simple: in exchange for free advertisement, you will offer the media organization something that it needs or wants. An example would be training the editors and reporters from a newspaper on Internet skills in exchange for a free newspaper advertisement. In this case, your only expense is time and effort. Best of all, both you and the media organization get what you want.

Marketing strategies used in Australian telecentres
There is a huge variety of ways available to market your telecentre. The following examples give an insight into some of the actions which have proved effective for other telecentres in Western Australia.

- **Develop a brochure** for the telecentre. Outline the services and facilities it provides, including a map showing exactly where the telecentre is in relation to other services in town. Include the operating hours and contact details. Use the telecentre equipment to produce the document, and incorporate colored paper for a cheap but effective means of attracting attention. Limited use of colored printing will also draw attention to the brochure. Select a color and stick with it for all telecentre publications so people will identify that color with the telecentre. Develop a logo and use it on all letterheads, correspondence and advertising.

- **Having a special offer or event advertised** on the brochure could ensure a wider readership. A lot of people don't read what they perceive as junk mail, so any printed matter should have an exterior that invites further reading. "Free service" or "Win a telecentre membership" and other similar offers could be the slogan that saves the brochure from ending up in the trash bin before it is read.

- **Organize an open day** at the telecentre, and invite members of the public for a familiarization tour. The time should suit the community, whether it is during the day or after business and school hours. Include demonstrations, give-aways, refreshments and perhaps a guest speaker to attract as many as possible. One telecentre puts on regular 'forums' with local speakers talking on a variety of subjects, such as travel and work experiences. The topic is less important than how many people it will attract into the telecentre.

- **Develop an individual design** for packaging or wrapping all material that leaves the telecentre, so it becomes identifiable and recognized by clients.

- **Run a logo/slogan competition** in the local community; encourage school students to become involved in developing a telecentre slogan.

- **Organize a series of awareness programs** and invite small groups or members of local organizations to attend a free-of-charge induction into telecentre services and facilities that would be particularly useful for that group.

- Organize a light lunch and **invite representatives from local businesses**, the chamber of commerce and government departments. As with an open day, include demonstrations of the telecentre's computing and technology equipment and a presentation on the benefits of the telecentre to local business. This event will need to be tightly structured, due to the time constraints of the people attending.

- **Display brochures** at local points of interest, such as the library, tourist bureau, schools and other public places.

- Capitalize on "**word of mouth" marketing.** Make brochures, business cards or a pamphlet available to all committee members and the coordinator at all times. This information can then be distributed by these people in the normal course of their day, when someone asks them about the telecentre.

Excerpts taken from the Western Australia Telecentre Network Tool Kit

MODULE 10
MAKING COMPUTERS WORK FOR YOU

The computer is the basic device that will connect you and the telecentre users to the Internet where you can get further connected to relevant and useful information, and to relatives, friends and colleagues who are far away.

The computer is a powerful electronic tool that can also assist you in keeping track of your finances and your daily administrative tasks for the telecentre. Jobs such as writing letters or grant proposals, and developing pamphlets and flyers to advertise the telecentre's services in the local community can be quite simple with the use of a computer.

Computer technology is continuously advancing, new computer terms are continuously being created and sometimes the novelty of the computer can make computer terminology confusing. As much as possible, computer terms have been explained in this module chapter. In addition, a short glossary of computer terms is included at the end of the chapter. The glossary is by no means complete, but it can still serve as a solid base for your daily computer uses.

As telecentre managers or staff, you may decide to provide computer and Internet access to the members of your community. This is a wonderful idea; however, the focus of this module will not be on how much to charge for these services or how you can make them available to your clients. Rather, this module will focus on how the computer can be used by the telecentre **manager and staff** for daily telecentre management. It can also be used for training new telecentre staff members and for training people in the community on basic computer and Internet skills.

Therefore, the purpose of this module is to:

- help telecentre staff members review some of the basic tools in the computer and information technology system

- provide some suggestions for using computers and software in telecentre management

- provide basic material for training and orientation sessions for people in the community who want to obtain the benefits of information technology.

1. THE COMPUTER

A computer consists of hardware and software. Hardware refers to the actual parts that make up the computer: the hard drive, the monitor and screen, the keyboard, mouse, etc.

Software refers to the programs saved in the computer's memory that allow you to compose letters, organize a budget, create brochures, log on to the Internet, etc.

1. 1 Computer Software

There is a wide range of computer software applications available on the market. Software applications that may be most suited for the telecentre include word processing and spreadsheets.

A. Word processing applications

These programs are useful for writing letters, manuals and texts. The programs are based on the traditional typewriter and are word-based. Recent programs also allow you to import graphics into your text. Common applications include Word, WordPerfect and Works.

Word processing applications are useful for developing materials needed for your training sessions (refer to the training module), for recording and compiling your needs assessment data (refer to the module on needs assessment), and for recording your centre's marketing strategies and growth plans.

B. Spreadsheets

These programs are useful for administrative functions necessary in determining the financial sustainability of the telecentre, such as bookkeeping, detailing a budget, and keeping track of fundraising activities. These programs are also able to perform mathematical functions so that calculations used for accounting purposes become simple. The most common program is Excel.

C. Publishing and presentation

These programs may be useful for the training and marketing functions of the telecentre. They are helpful in producing flyers, brochures and pamphlets that can be used to advertise the telecentre and its services, as well as provide services for clients in the community. Some publishing programs include PhotoShop, Publisher, PrintShop and PowerPoint.

2. CD-ROM

A CD-ROM is a type of optical disk capable of storing large amounts of data. (CD-ROM stands for Compact Disc – Read Only Memory.)

A CD-ROM can be a useful source of information for a telecentre. Some helpful software programs can be found on CD-ROM. In addition, large collections of specialized information such as that related to health, agriculture and education are available on CDs. Some encyclopedic collections are also on CD.

The large repositories of information in medicine and public health are ideal for storage on CD-ROMs. Databases, textbooks, bibliographies, tutorials, and images can be easily stored and retrieved. CD-ROMs are strong; they can withstand adverse weather conditions and can be used repeatedly without being damaged.

There are several advantages of CD-ROMs:

- they can provide easy access to large databases of information

- they are easy to search

- they are fast to use

- they are not easily damaged

- they can be used on *any* computer with a CD-ROM drive

- they are easily available

- there are no telephone costs

- they are available in multimedia, i.e., they can contain sound, visuals and movement

The disadvantage of CD-ROMs is that data may not be completely up-to-date, and newer versions or subscriptions to CD-ROMs can be expensive to acquire.

CD-ROMs are stamped (recorded/burned) by the vendor, and, once stamped, they cannot be erased and filled with new data.

To use or "read" a CD, you need a CD-ROM player. Most computers today come equipped with a special drive for reading a CD-ROM. All CD-ROMs conform to a standard size and format, so you can load any type of CD-ROM into any CD-ROM player. In addition, CD-ROM players are capable of playing audio CDs, which share the same technology.

3. ABOUT THE INTERNET

The **Internet,** often called "the Net," is a worldwide system of computer networks most commonly used for communication and information access.

There are many Internet services and applications that allow for the exchange of information between individuals and organizations. These include E-mail, the World Wide Web (WWW), Chat Rooms, Mailing Lists, Newsgroups and others.

Many people use the terms "Internet" and "World Wide Web" interchangeably, but the WWW is actually just one part of the Internet.

The Internet is useful to the telecentre manager for a number of reasons:

- It can increase access to information to improve telecentre management and increase the telecentre's success and ensure its long-term presence in the community.

- It can create more opportunities for cooperation and communication with colleagues and experts across greater distances.

- It can increase access to more information for the local community and improve the local standard of living. For example, one may be able to locate information quickly about ways to reduce mosquito-related diseases in the community by contacting experts across the world.

- It can increase efficiency, e.g., the Internet can increase the rate at which you or local officials can communicate with colleagues and gather information necessary for community projects. Work can therefore be completed more readily.

The Internet is often described as "electronic" or "digital." This refers to the fact that the Internet is set up on a numeric code that transforms these number codes into text, images and sound.

3.1 How do I connect to the Internet and choose an internet service provider?

Most often, users connect to the Internet through an organization or company called an **Internet Service Provider (ISP)** that has a direct connection to the Internet. The two most common types of Internet connections that an ISPs offer are real-time or store-and-forward.
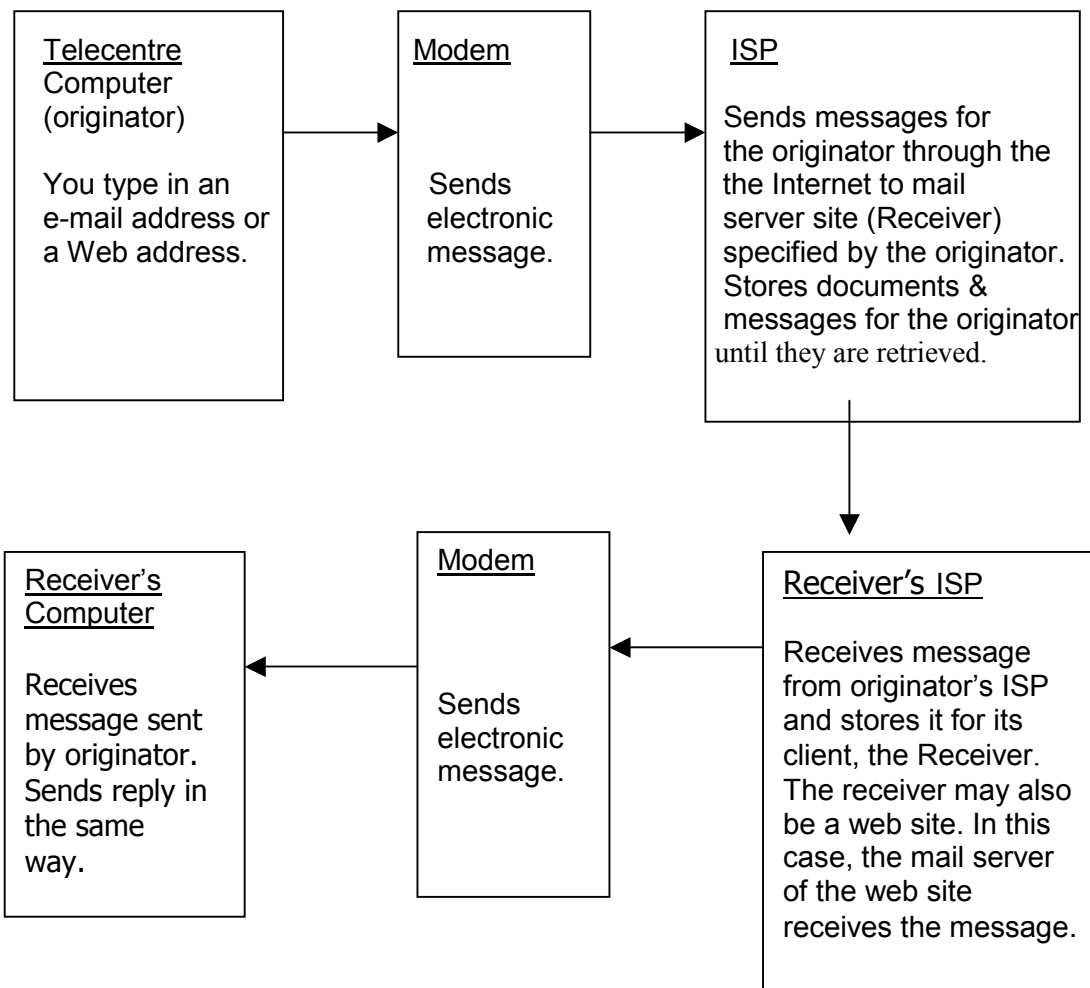
Real-time Internet Connection

If you have a real-time Internet connection, your ISP connects you to the Internet using normal or specialized telephone lines. This type of connection permits easy access to all of the Internet tools for accessing information and communicating with others.
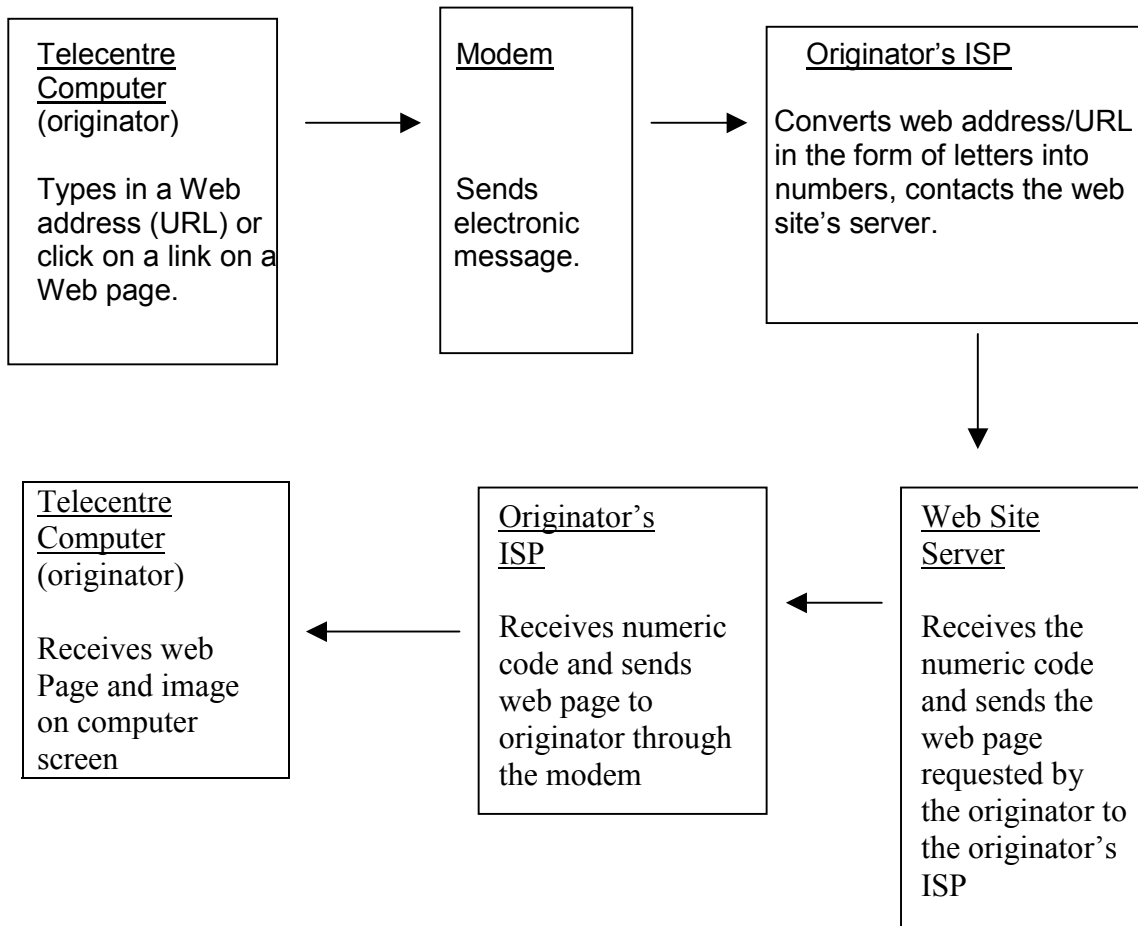
Store-and-Forward Connection

Store-and-forward technology allows users to exchange e-mail using normal telephone lines. If you are using a store-and-forward system, you compose your messages and store them on your own computer until you are ready to connect to your ISP using a modem. By connecting to your ISP, you trigger an exchange of messages. Your outgoing messages are transferred to your ISP, and from there to the Internet.

We can illustrate this process of sending e-mail from the originator to the receiver with the following model:

Telecentre Computer (originator) You type in an e-mail address or a Web address.	→	Modem Sends electronic message.	→	ISP Sends messages for the originator through the the Internet to mail server site (Receiver) specified by the originator. Stores documents & messages for the originator until they are retrieved.

Receiver's Computer Receives message sent by originator. Sends reply in the same way.	←	Modem Sends electronic message.	←	Receiver's ISP Receives message from originator's ISP and stores it for its client, the Receiver. The receiver may also be a web site. In this case, the mail server of the web site receives the message.

The process of conducting a web search is somewhat different. This process, which all takes place in a matter of seconds, is illustrated in the model below.

Telecentre Computer (originator) Types in a Web address (URL) or click on a link on a Web page.	→	Modem Sends electronic message.	→	Originator's ISP Converts web address/URL in the form of letters into numbers, contacts the web site's server.
Telecentre Computer (originator) Receives web Page and image on computer screen	←	Originator's ISP Receives numeric code and sends web page to originator through the modem	←	Web Site Server Receives the numeric code and sends the web page requested by the originator to the originator's ISP

3.2 What equipment do I need?

There are two basic pieces of equipment that you will need to send and receive electronic messages on the Internet: a computer and a modem.

A **modem** is a device that connects a computer and a telephone line and permits the computer to transfer and receive data between itself and other computers.

It is advisable to protect your computer and modem from damage caused by electrical surges over telephone lines, which may occur during rainy seasons or storms, by using a surge protector or an un-interruptible power supply (UPS) that includes surge protection.

In areas where telephone services do not exist or are unreliable, satellite or radio transmission can be used to provide the connection. However, a satellite connection is an expensive option and requires a satellite dish. The United Nations Economic Commission for Africa uses satellite signals for Internet access. Most access, however, will be dial-up access, i.e., will function with the use of telephone lines.

3.3 How do I find out what software I need?

In order to send and receive messages electronically, you will need communications software on your computer that will help you connect to your ISP provider. This software will be on a computer or a CD-ROM. Your communications provider will usually provide you with the necessary software or direct you where to find it when you establish your account.

3.4 Assessing and comparing ISPs

Here are the key items to investigate when you are choosing a prospective ISP:

- Equipment costs
  For example, how much does a modem cost? Do I have to pay for telephone line installation?
- Modem speed
  E.g., what is the speed of the modem connection? What modem speed should I purchase 14.4, 28.8, 33.3 or 56.6 kbps (kilobits per second)? (The higher the number, the faster the connection.)
- Software
  E.g., will the ISP provide start-up software? How would I load the software?
- Service costs
  E.g., will the ISP charge me monthly, annually or by hour? How many e-mail accounts will you give me? How much web space will you give me without charge? How much does extra web space cost?
- Telephone charges
  E.g., do I pay telephone bills separately from the ISP connection time?
- Service support
  E.g., how can I contact the ISP if I have a problem with my Internet connection?
- Experience and reputation for good service
  E.g., what has been the experience of other clients with this ISP? How reliable are the people who work at the ISP about computers?
- Length of time in business
  E.g., how long has this ISP existed?

If possible, ask your friends and colleagues what their experience has been with various ISPs.

4. E-MAIL

E-mail (electronic mail) is the most basic of the electronic communication tools, allowing individuals to send and receive messages electronically. E-mail messages are usually in plain text. However, e-mail also allows you to retrieve information from automated computer programs, such as banking databases, and send and receive graphics and audio files. *A file is a collection of electronic records or documents*. E-mail can take the form of person-to-person exchanges, or can be distributed to large groups of individuals simultaneously through mailing lists and discussion groups.

There are a number of advantages to using e-mail over other forms of communication. With e-mail you can:

- Get rapid responses to your questions;

- Send messages to one or more persons simultaneously;

- Communicate relatively inexpensively;

- Exchange messages when it is convenient without regard to difference in time zones;

- Communicate directly with individuals, allowing relations to develop more rapidly, and letting people share information more freely;

- Save the time and resources involved in printing and postal mailing;

- Store information on your computer for future reference or use;

- Participate in e-mail discussion groups.

Some of the disadvantages of e-mail are that it is presently not available in all languages, and it requires computer skills. However, these skills are easy to learn with some time and practice.

4.1 Main E-mail functions

E-mail accounts are easy to set up. Most ISP's offer free e-mail service along with your connection. You can also subscribe to "web mail." Web mail refers to free e-mail service on the Internet.

However, regardless of the e-mail service provider you choose, you will always have access to the following basic functions or options with e-mail.
.
Check mail: Pick up new mail in your electronic mailbox. In computer terminology, a mailbox refers to the web space where your personal messages are stored.

Delete messages: Send current message to the electronic "trash" mailbox. This option is similar to throwing a letter into a wastebasket.

Compose messages: Write a new message.

Reply: Write a response to the sender of the current message.

Forward: Send the current message to someone else.

Open next message: Open the next message in the In mailbox or Out mailbox.

Open previous message: **O**pen previous message in the In mailbox or Out mailbox.

Attach file: Attach a file to the current message or open a new message with the file attached.

4.2 Understanding E-mail addresses

E-mail addresses are like postal addresses. While the postal service uses an address to determine where to send a letter, the Internet decides where to send an e-mail message based on an e-mail address.

E-mail addresses contain a user name, a host and/or domain name, and a code indicating either a top-level domain or country name. Take, for example, the following address: user@yourisp.org.uk
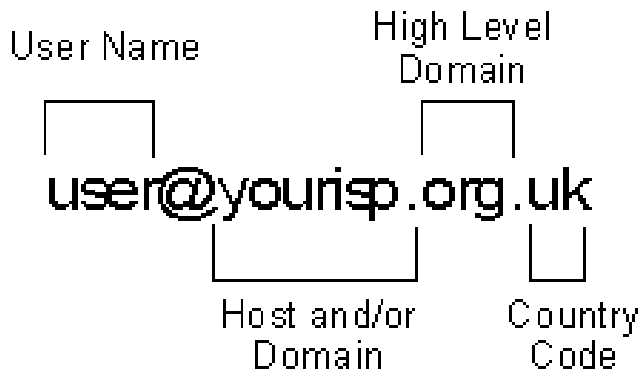
User name:	This is the part to the left of the @ sign. This is a name that a user selects, or has selected for him or her by a service provider or an e-mail administrator. Often user names are a combination of a person's first and/or last names, such as rsand. Usually, e-mail does not distinguish between capital and small (lower case) letters.
@:	This serves as a divider between e-mail sections. It is pronounced as "at" and can be typed in by pressing the "Shift" key and the "number 2" key simultaneously on most computer keyboards. On some computers, a different combination of keys may be necessary to print @.
Host and/or domain:	The part of an e-mail address immediately to the right of the @ symbol refers to the name of the server or ISP where the mail is to be sent.
High level domain:	The high level domain designates a type of institution. For example, ".org" is an organization and ".edu" is an educational institution.
Country code:	A country code designates the country of origin. In the example, uk is the United Kingdom. The country code for Kenya is ke. (Not all e-mail addresses have a country code.)

4.3 E-mail etiquette

Criteria for writing good e-mail messages
1) Keep sentences and paragraphs short and to the point
2) When responding to a message, retain the original subject heading so recipient can follow the theme of a discussion unless you are changing the subject from the incoming message
3) Always include a pertinent subject title for the message. This enables recipients to locate the message quickly in their inbox.
4) Only send messages that you would not mind seeing on the evening news. Any message you send to anyone can be forwarded to someone else without your permission.
5) Avoid capitalizing since this is generally considered to be the Internet equivalent of SHOUTING!
6) Include your name at the bottom of messages as well as your other contact information.
7) Do not use sarcasm, rudeness (flames) or complex humor. Without face to face communication, your joke may be viewed as criticism.
8) Do not assume that people will understand your reference to TV, sports, pop culture, or current events in your country.
9) Do not keep the body of the original text in your replies, except as absolutely necessary since the more text there is in a message, the longer it takes to download. The longer the recipient has to stay connected to their ISP, the greater the telephone and ISP charges — particularly in the developing world.

4.4 Mailing lists

Another way to communicate with large groups of people is through mailing lists.

Mailing lists are commonly referred to as: lists, mailing lists, electronic lists, Internet mailing lists, listservs, discussion groups and conferences.

Mailing lists are electronic mechanisms through which a large number of people can receive or exchange information.

There are several types:

- One-way mailing lists for the distribution of newsletters and bulletins. Two-way mailing lists for discussion of specific topics among subscribers. Often these are public lists and open to anyone. Private mailing lists are small and open to invited participants only.

Listservs have several benefits:

- Not costly since messages can be read off-line. **Off-line** *refers to your capability to read or write messages without being connected to your ISP or server*. In other words, you choose to temporarily suspend your connection to the ISP or server so that you will not be charged any money for it.

- A valuable way for many people to share ideas and comments on specific topics.

- Transcend geographical boundaries and time restrictions.

Many organizations and individuals run mailing lists on a broad range of topics. The Web site Liszt (http://www.liszt.com) has over 90,000 lists. You and those who use the telecentre can search the site to find topics which relate to your areas of interest.

5. THE WORLD WIDE WEB

The **World Wide Web**, or the Web, is a specific part of the Internet. The Web consists of a collection of documents called "Web pages."

Any item on a Web page can be formatted with a link to another Web page; these links are called **hyperlinks**. A series of hyperlinked Web pages create a Web site. *A Web site is a collection of web pages generally about one particular topic or organization. A Web page within a Web site will explain specific information about different aspects of a topic or organisation*. These pages are connected by hyperlinks. A site may contain any number of hyperlinked Web pages.

For example, a Web site on nutrition may have one Web page explaining the importance of a healthy diet. A hyperlink will lead to another page that explains only about fruits and vegetables, another link will take you to a different page about grains, another link will lead to a Web page on dairy products and yet another link will connect you to page about meat and meat substitutes. Together, these pages make a site.

The initial page of a given site is called the **home page**. Usually, this provides a listing of many of the main pages that make up this site. Hyperlinks also allow pages to be linked to pages at other sites, so that by following a series of links, you can view a series of different pages, posted at different sites or even in different countries.

5.1 Information on the Web

There are large amounts of information on the Web, which makes it very much like a library. However there are no rules governing the quality of the information or who can publish it. Information can be very useful or very poor. The user has to be able to evaluate the quality and validity of the information.

Most information on the Web is recent. If you are looking for the latest discussion paper in 1995, you may find it. If you are looking for material from the 1970s, you probably will not find it. You will find there is a predominance of information from the United States and in the English language. The Internet is not yet a fully global service
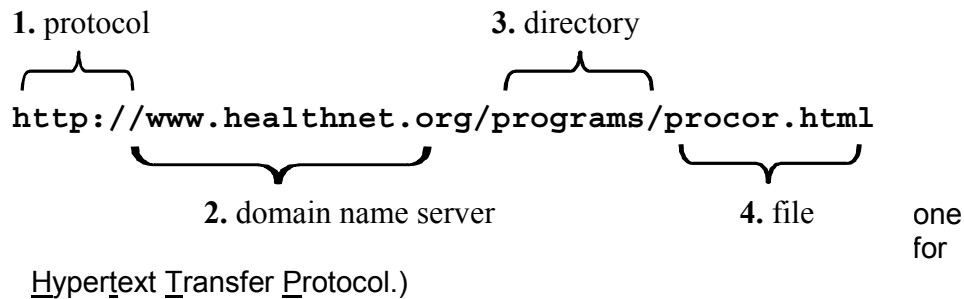
There are several Internet applications that you can use to navigate the Web. In computer terminology*, an **application** refers to software or computer programs that help you perform specific tasks*. Two of the most common applications, also referred to as **browsers,** are Netscape Communicator and Microsoft Explorer.

5.2 Understanding Web addresses

A Web site or Web page is most commonly located using a URL.

A **URL**, or a Uniform Resource Locator, specifies the location or Web address of a page on the World Wide Web. Every item on the Net, whether it be a page of text, a graphic item or a sound file, has its own URL.

A URL is made up of four different components: the protocol, the domain name, the directory path, and the file name. Take, for example, the following address:

1. protocol   **3.** directory

`http://www.healthnet.org/programs/procor.html`

           2. domain name server   **4.** file   one
                                                                                  for

Hypertext Transfer Protocol.)

2. Domain Name Server: www.healthnet.org/ is the domain name that refers to a computer registered as the service provider or an information provider for that particular Web site. The domain name belongs to the company that put up the Web site. No other Web site can be created with the same domain name. Sometimes, you will find that the domain name refers to your ISP.

3. Directory: The third part of the URL, `programs/`, is the directory path, which shows the location on the server where the page can be found.

4. File: The last part of the URL, `procor.html`, is the file name. In this case, it is a Web page, but it could also be an image file or a sound file. 'html' stands for Hypertext Mark-up Language and is the computer language in which the page is written.

As you will see, it is not necessary for you to know all of these pieces of information to locate a particular Web site.

6. SEARCHING THE WORLD WIDE WEB

A. Entering and locating URLs

Information on the Web can be found by typing the URL or web address of a particular site into the location window at the top of the screen on an Internet application such as Netscape or Explorer.

To do this, you will first use your mouse, highlight the URL that may already be in the location window on your screen and then press the "delete" key. You can then type the new URL in the location window and press 'enter' to locate the site.

B. Using a search engine

On the Web, search tools are called "search engines." They act like information retrieval tools or catalogues used in libraries.

Like Web Pages, search engines, are constantly changing because they develop new techniques for finding information. New engines also are developed. If you choose a

well-respected and popular search engine, chances are it will keep up to date and provide you good service. We have listed some of the better-known search engines below, along with their URLs. Because different search engines have different strengths and weaknesses, you may wish to use more than one search engine for a particular search.

Search Engines	URLs
AltaVista	http://www.altavista.com/
Excite	http://www.excite.com/
Google	http://www.google.com/
HotBot	http://www.hotbot.com/
Infoseek	http://www.infoseek.com/
Lycos	http://www.lycos.com/

6.1 Performing a search

1. Go to the Web site of a search engine, for example, http://www.altavista.com

2. Select and enter the keywords of your search in the text box.
For example, if you want to do a search on Africa and malaria, you might want to type "Africa" and "malaria."

3. Click the button marked "search," "seek" or "go" (whichever is applicable).

The search engine will then retrieve Web pages and present their URLs with a short description of the information about the Web page. The URLs will appear with the best matches for your search listed first. You may then click on any of these URLs to view the information.

6.2 Specifying keywords

You should be aware that most Web searches are not topic searches but **word** searches. Search engines do not search for content on a given subject, but for a word or set of words.

In order to conduct a Web search, you will need to select a word or set of words, called "**keywords**," which describe your chosen subject. When you submit these keywords to the search engine, it searches through the text posted on a large number of Web sites for those specific words. When it has completed the search, the search engine gives you a list of all the pages on which those words can be found.

When conducting a keyword search:

- You can specify more than one keyword by listing them one after the other.

- The more specific your keywords, the more refined and specific your search results.

For example, you may be interested in learning about health isssue of Indian youth. If you conduct a search using "health" as your keyword, the search engine will provide you with over 12,000 web sites. This is an unrealistic number of web sites to

read through, and many of them will not be related to your specific interest. Therefore, you want to narrow your search.

You could focus your search by using the keywords "health" + "youth." This search may provide fewer web pages but still too many to realistically sift through.

You could narrow your search even further by typing the keywords: "health"+ "youth" + "India." This search will provide you with fewer, more specific results related to your topic.

Therefore, you want to narrow your search as much as possible so that you can retrieve the best information as quickly as possible.

- If your keywords contain a phrase like "South Africa" or "cardiovascular disease" you should enclose them in quotation marks (" "). That way, the search engine will look for instances where those words appear as a phrase not as individual words.

6.3 Main Web search functions

Although there are several Internet applications, most applications share the same functions described below.

Back: Displays the previous page in the history list of your web search.

Forward: Displays the next page in the history list. Especially useful after you have used the back icon explained above.

Home: Displays the home page. Home page refers to the initial page of a given site.

Search: Displays a page offering access to Internet search engines and other search services.

Print: Prints the current page displayed on the screen.

Security: Displays the Security Info window. This page lets you view and interact with elements such as encryption status, personal and site certificates, security-related applications and passwords.

Stop: Stops an ongoing search or transfer of page information.

The main ways of navigating the Web are by hyperlinks, scrolling and buttons (**forward**, **back** and **home**).

6.4 Hyperlinks

Any item on a Web page can be formatted as a link to another Web page; these links are called **hyperlinks** or just **links**. (We referred to links previously in our overview of the World Wide Web on page 8 as a way to connect or move to another Web page or Web site.) A single Web site may contain any number of linked Web pages. Clicking on a link will connect to more information at the same Web site or at another Web site. Each link contains Internet location information that serves as an address of the Web site.

Links are designated by colored underlined words or sometimes by an image. Also, when your mouse cursor on the screen is over a link, it will change from an arrow to a pointed hand. Clicking on the underlined text (or image) will initiate the connection to the linked Web site.

When you click with the mouse cursor over a highlighted word, picture, or menu link, you bring another page of information to your screen.

6.5 Search do's and don'ts

Because there is so much information on the World Wide Web, searching the Web requires quite a bit of patience and skill. You will reap more benefits from your Net searches if you follow a few simple suggestions.

Suggestions	Explanations
Read the site's "how to use" section.	No matter how wonderful a search engine is, it must be used in the way the designers intended. Each search engine has its own syntax and search algorithm. The site's "how to use" section will explain the most effective way to use the search engine.
Be precise.	Precise searches help the engine pinpoint the most relevant documents. For example, if you want to find information about a book, search for the title of the book rather than for the name of the author.
Be patient.	You might have to try out a few different searches if your first attempts are unproductive.
Check your spelling.	It sounds obvious, but even the best spellers make mistakes.
Use capitalization where necessary.	Don't conduct a search on South Africa by typing south africa — a common error.
Learn techniques to help do searches.	use +, - and " " for effective searches.
Learn about each search tool.	Learn how each search engine approaches its query. Tools are always changing. As you consult the information with each tool, you can learn about other language sites, national sites and mirrored sites that work faster in your area.
Avoid typing errors	Make sure not to make any typing errors in the URL or your message will not be processed. Pay special attention to preserve the case of all letters. On the Internet, we refer to upper case and lower case letters. Upper case refers to capital letters and lower case refers to small letters. If a capital (or upper case) letter is typed instead of a small (or lower case) letter, you will not be able to retrieve the URL you want. Remember to include the http:// component of the URL when you enter the get command.

7. SAVING DATA FROM THE WORLD WIDE WEB

A. Bookmarking a Web site

As you use the Web you will find sites that you want to revisit. You do not have to write down the URL for those sites. You can use Netscape to record your favorite spots for you in a Bookmark file. *Thus, the **Bookmark** file is a list of sites that you use often*. In Microsoft Explorer, the file is called "Favorites." If you are using Netscape, and you arrive at a site that you want to save, click on

1. **Bookmarks** on the menu bar, then
2. **Add Bookmark**.

The URL is then automatically saved in your bookmarks. When you want to return to that particular site, you can click on the saved URL under Bookmarks.

B. Saving Information from a Web site

There are two main ways to save text from a Web page.

A. You can copy the text and "paste" it into a word processor using an application such as Word or Word Perfect.

1. Highlight the text in the file by clicking and dragging your mouse over the desired text.
2. Copy the text by selecting **Edit**. Then, in the menu, select **Copy** (or **Ctrl + C).**
3. Open Word or WordPerfect.
4. Paste the text into Word by selecting **Edit**. Then, in the menu, select **Paste.**

B. You can also e-mail the document and its URL to yourself or to someone else by selecting **File**. Then, from the menu, select **Send Page** and fill in the requested information.

8. DRAWBACKS OF USING ELECTRONIC SOURCES

A. Frustration

The Internet can seem very slow to use because there is a lot of traffic on the Internet and information transmits slowly. The slowdown or breakdown in communication may only last a few minutes or hours.

Also, the Internet is very volatile – information is often put on and removed quickly, and the data you saw last week may have been removed or moved to another site. This is a good reason to save a copy to your hard drive or on a separate disk.

B. Finding sources can be difficult

9. TECHNICAL PROBLEMS

When Netscape Navigator does not find what you are looking for, the Web sends you back short – sometimes confusing – messages. It helps to understand these messages and to know what you can do. Here are some suggestions:

A. General approach to error messages

- Read the message carefully.
- Accept that error messages are a part of dealing with the Web.
- Repeat the action you did that led to the error message in the first place.
- If the message repeats itself — write it down. That way you will be able to spell out the nature of your problem to someone helping you.
- Check the basics. Are you hooked-up? Did you type accurately?
- Try again.

If the problem persists, check the notes in this section; decide if you need help.
If you need help, call your ISP, a colleague, or a friend.

B. No DNS entry

You might receive the message below after you type a URL in a browser's location toolbar:

Error message: no DNS entry

> Netscape is unable to locate the server:
>   unganisha.idrc.ca
> The server does not have a DNS entry.
>
> Check the server name in the Location (URL)
> and try again.
>
> Using previously cached copy instead
>
> [OK]

It means that your server did not locate the site you are searching. This may be due to factors such as the connection between servers is too busy with other Internet traffic, you typed the URL incorrectly, or you lost your telephone connection. Follow the steps recommended at the beginning of this section.

C. 404 error

If you type the wrong URL in the location toolbar of your browser, you will receive an "error 404" message. The message will read "File Not Found."

This means your server located the site but not your specific URL. You can try to change the ending of the URL, or go to a higher level of the Web site by shortening the URL. For example, if you searched Netscape.com/downloads/ and got an error message, you could delete the last part of your URL (/downloads/) and simply search "Netscape.com" and see if there is a link to the resources you need.

10. INTERNET SECURITY

Information traveling between your computer and a server can be routed through many computer systems. Any one of these computer systems could capture and misuse your information.

Protect your information by dealing with secure sites. Your application may have security warnings that you can turn on to indicate if sites are not secure.

You can also tell when you have a secure connection by looking at the location (URL) field. If the URL begins with **https://** (instead of http://) the document comes from a secure server. The key image in the bottom left corner also indicates a secure site. If the key is broken, the site is not secure.

11. TIPS ON USING ELECTRONIC SOURCES FOR INFORMATION

- Become familiar with electronic sources early in your research. Bear in mind that becoming proficient with computers requires an investment of your time. If you leave your computer search to the last minute you will probably experience frustrations. So plan ahead.

- Don't expect one source to be comprehensive.

- Electronic sources add to other research avenues that you have available. No one information source is complete. Use Internet information to support other information.

- Don't worry ⸺ you can't break anything! When people are new to computers they worry about making mistakes and damaging the machine. Computers are resilient. Electronic information is well protected. The worst that can happen if your computer freezes, i.e., your computer no longer accepts the clicks of your mouse or keyboard commands, is that you have to switch the machine off and start again.

- Assume that all documents are copywritten.

- Do not accept what you read on the Web as being the absolute truth. Think critically about everything you read on the Web.

RECOMMENDED WEB SITES

Organizations and institutions:

Centers for Disease Control and Prevention (CDC)
http://www.cdc.gov

The Cochrane Collaboration
http://www.cochrane.org/

> The Cochrane Collaboration is an international organization that aims to help people make well-informed decisions about healthcare by preparing, maintaining and promoting the accessibility of systematic reviews of the effects of healthcare interventions. The Systematic Reviews are available at no charge.

Harvard AIDS Institute
http://www.hsph.harvard.edu/hai/

Healthlink Worldwide
http://www.healthlink.org.uk

> Healthlink Worldwide works to improve the health of poor and vulnerable communities by strengthening the provision, use, and impact of information.

National Library of Medicine
http://www.nlm.nih.gov/

Program for Appropriate Technology in Health
http://www.path.org/

> PATH, the Program for Appropriate Technology in Health, is an international, non-profit organization whose mission is to improve health, especially the health of women and children.

UN AIDS
http://www.unaids.org/

World Health Organization
http://www.who.org

International Development Organizations

International Development Research Council
http://www.idrc.org/

> The International Development Research Council (IDRC) is the world's leading professional association for managers of corporate assets including corporate real estate, facilities, information technology, human resources, finance and other support units that define corporate infrastructure.

UNICEF
http://www.unicef.org/

United Nations
http://www.un.org

United Nations Development Programme
http://www.undp.org/

United States Agency for International Development
http://www.info.usaid.gov/

World Bank
http://www.worldbank.org

Specific information

AEGiS: The largest HIV/AIDS Web site in the world
http://www.aegis.com/

Infectious Disease Specialty Supersite
http://pages.prodigy.net/pdeziel

Malaria: An Online Resource
http://www.rph.wa.gov.au/labs/haem/malaria/index.html

Pediatric Infectious Diseases
http://www.pedid.uthscsa.edu/

Reproductive Health Outlook (RHO)
http://www.rho.org

> RHO is produced by PATH and is especially designed for workers in low-resource settings.

Electronic Networking

African Internet Connectivity
http://www3.wn.apc.org/africa/

Network Startup Resource Center
http://www.nsrc.org/

> The Network Startup Resource Center (NSRC) is a non-profit organization involved with the deployment and integration of appropriate networking technology in various projects throughout Asia, Africa, Latin America and the Caribbean, the Middle East, and Oceania.

Health Statistics by Country

http://www.worldbank.org/data/countrydata/countrydata.html
http://www.odci.gov/cia/publications/factbook/country.html
http://www.unicef.org/statis/
http://www.who.int/whr/

Medical Journals

African Journal of Reproductive Health
http://www.hsph.harvard.edu/ajrh/index.html

British Medical Journal
http://www.bmj.com

Journal of the American Medical Association
http://www.jama.com

The New England Journal of Medicine
http://www.nejm.com

The Lancet
http//www.thelancet.com

Internet Directory and Resource Site: Medical Journals
http://www.sciencekomm.at/journals/medicine/med-bio.html

Conference Announcements

Doctor's Guide to Medical Conferences and Meetings
http://www.pslgroup.com/MEDCONF.HTM

Glossary

Bookmark

A pointer to a particular Web site. Within browsers, you can bookmark interesting pages so you can return to them easily.

Browser

Short for Web Browser; it's the tool (program) that allows you to surf the web. The most popular Web Browsers right now are *Netscape Communicator* and *Internet Explorer.*

CD-ROM

A type of optical disk capable of storing large amounts of data.

Chat Room

A place on the Internet where people go to "chat" with other people in "rooms." The rooms are usually organized by topic. When you're in a Chat Room, you can view all of the conversations taking place at once on your screen. You can also get into a private chat room where only you and one or two others may write to each other.

Cookie

A "cookie" is an Internet site's way of keeping track of you. It's a small program built into a web page you might visit. Typically, you won't know when you are receiving cookies. Ideally, a cookie could make your surfing easier by identifying you, tracking sites you visit, topics you search, and get a general feel for your preferences. This can make surfing easier, faster, more personal, and more efficient. It can also be used to collect your e-mail address for marketing (spamming) purposes. You can set your browser to warn you before you accept cookies or not accept them at all. Check your (advanced) browser settings. Keep in mind that some secure sites won't work if you don't accept their cookies.

Cyberspace

Term used to describe the Internet.

Domain Name

The highest level name of the web site. A site does not have to have its own domain name.

Download

The transfer of information from the Internet to your computer. Every time you instruct your computer system to retrieve your mail, you are downloading your mail to your computer. You may also download programs to your computer. However, be careful about downloading files or programs from a site in which you are not familiar. You could download a virus and never know it until it's too late.

E-mail

Electronic mail. This tool is usually provided by your ISP. It allows you to send and receive mail (messages) over the Internet.

File

A collection of electronic records or documents.

FTP

An acronym for File Transfer Protocol. It's the tool you would use to transfer files through the Internet from one computer to another. For example, you would use an FTP to upload your web page from where you built it to a web site so that others can look at it.

HTML

Hypertext Mark-up Language. HTML is not really a programming language, but a way to format text by placing marks around the text. For example HTML allows you to make a word bold or underline it. Early word processing programs used to work this way. HTML is the foundation for most web pages.

http

Hypertext Transfer Protocol. A protocol that tells computers how to communicate with each other. You will notice most Web page locations begin with "http://"

Hypertext

Text on a web page that links the user to another web page. The hypertext or links will usually be a different color than the other text on the page and is usually underlined.

Host

The computer on which a Web site is physically located.

Icon

An image or symbol that represents a command, tool, or a program on a computer screen.

ISP

Internet Service Provider. This is your connection to the Internet. You use an ISP to connect onto the Internet every time you log on.

Internet

This electronic network connects the hosts together so that you may go from one web page to another efficiently.

Java

A programming language that developers use to create *applets*, small programs that are embedded in Web pages and that run when a user accesses the page or clicks on a certain area. If you have visited sites that play sounds, have animated figures trotting across the screen, or display scrolling text, you have already seen Java.

Keyword

A word you might use to search for a Web site.

Link

A link will transport you from one Internet site to another with just a click of your mouse. Text links usually will be underlined and often a different color than the rest of the text on your screen. A graphic link usually has a frame around it. Also see hypertext.

Load

Short for download and upload. If someone asks how long a page took to load, he/she is referring to the time it takes a page to appear on your screen. If a web page is loading slowly it means that it's taking a long time to fully appear on your screen.

Location

An Internet address.

Modem

Modems allow computers to transmit information to one another via an ordinary telephone line.

Net

Short for Internet.

Netiquette

Proper behavior on the Net; etiquette on the Internet.

Newsgroups

Also called Usenet, they are groups that often have nothing to do with news. Newsgroups are ongoing discussion groups among people on the Internet who share a mutual interest.

Online

Having access to the Internet.

Protocol

A set of rules that lets computers agree how to communicate over the Internet.

Site

A place on the Internet. Every web page has a location where it resides which is called its site. And, every site has an address usually beginning with "http://"

Spam (or Spamming)

The Internet version of junk mail. Spamming is sending the same message to a large number of users, usually to advertise something.

Surfing

The process of "looking around" the Internet.

Toolbar

A row of images and buttons, usually at the top of the screen, that act as shortcuts for performing certain operations in a software program.

URL

An acronym for Uniform Resource Locator. It's the address of each web site. It usually begins with "http://".

Upload
　　The process of transferring information from your computer to another computer through the Internet. Every time you send e-mail to someone you are uploading it.

User ID
　　This is the unique identifier (like your logon name) that you use to identify yourself on a computer.

Virus
　　A virus can wipe out information on your computer and create major havoc. You can unintentionally download a virus from a web site or get it from a disk that someone has lent you. There are virus-checking programs, but there are new viruses popping up every day. The best defense against a virus is to be very careful not to download programs or data from a site you're not familiar with.

WAIS
　　An acronym for Wide Area Information System, which basically means lots of large databases you can search through. It was designed by WAIS Corp. as a way of accessing very large databases.

Web Browser
　　The tool (program) that allows you to surf the web. The most popular Web Browsers right now are *Netscape Communicator* and *Internet Explorer.*

Web Page
　　When you are looking at a site on the World Wide Web, you are looking at a Web Page. A particular site may consist of several pages. The Home Page is the first or main page of a site.

World Wide Web
　　A full-color, multimedia database of information on the Internet. As the name implies, the World Wide Web is a universal mass of web pages connected together through links.

Adapted from: http://www.geocities.com/FashionAvenue/4869/desc.html
Edited by Sabre Foundation, Inc. and SatelLife, Inc.

THE TELECENTER TRAINING MANUAL

TELECENTRE MODULES

This report includes draft copies of five sample modules from the collection of 10 prepared.

THE BACKGROUND

The telecenter movement has gained substantial momentum during the past five years largely through the leadership of international organizations such as the ITU, FAO, the World Bank, IDRC and USAID. Their commitment has been based on the assumption that information and communication technologies have much potential for accelerating nations= development and that telecenters could be instrumental in providing universal access to these resources so that individuals might enjoy better health, education, income, and welfare. The potential dynamics of these factors is illustrated in a recent report in the International Herald Tribune from Cambodia. It tells of the village chief who is quoted as saying: AI don=t really know what the Internet is or how it works, but it is changing our lives.@ The story goes on to tell about women who revived the village=s traditional silk-weaving industry.

> The scarves are sold through the village=s Web site to customers around the world, but the profits are being plowed into a pig farm. The farm has generated new employment, possible spin-off industries and hoped-for profits that will go into a fund to pay for the villagers= medical care.

Testimonies at various international conferences on telecenters in 1999 indicated that training for telecenter managers was largely spontaneous if it existed at all. Yet it was recognized that the sustainability of telecenters was inextricably entwined with the quality of leadership and service provided by telecenters. Participants in one such conference urged a Cornell University team to take leadership in dealing with the situation. Discussions with both ITU and FAO resulted in this project to create a training manual for telecenter personnel.

STYLE GUIDELINES

The project was guided by the recognition that telecenters vary significantly in their characteristics. The manual ultimately was designed for those staffing a multi-purpose community telecenter similar to the ITU pattern. Among the assumptions that dictated the design and style of the manual were:

(1) the educational level of the staff would be moderate but not much beyond 12 years of formal education

(2) managers and staff would have limited time for training and therefore each module would need to be short

(3) each module would need quickly to indicate why the topic was important and motivate the reader to move on to the Ahow-to-do it@ content.

(4) the text of the manual would need to be computer-friendly so that older computers and narrow bank transmission could handle downloading with a minimum of complications

(5) English would be the initial language for the manual but its utility would command translation to other languages, thus making simplicity of text an important goal.

(6) Redundancy is an acceptable characteristic among modules because repetition in itself can be valuable, but also because not everyone will study every module and information in one module may be important as background in another module.

(7) Significant and valuable illustrative material that exists in other published materials should be incorporated into the modules rather than attempt to reinvent similar materials. Thus, a special effort was made to incorporate some of the excellent materials freely offered by the Food and Agriculture Organization.

RESEARCH AND PRODUCTION PROCESS

The research process that led to the creation of a practical training handbook for telecenter managers occurred in several stages.

Preliminary research

Persuaded by the testimonies at various international conferences during 1999 that suitable training for telecenters staff was generally overlooked, we initiated research directed toward the development of training strategies for telecenter personnel. The initial study, exploratory in nature, was the research basis for the production of the training manual for telecenter management.

The research design was basically composed of two elements: 1) a survey on training for telecenter staff; 2) a field visit to telecenter locations in South Africa. First, we recruited a panel of 45 telecenter specialists from around the world to participate in a survey and Internet discussion of specific telecenter training needs. Then we followed this with data collection from telecenter staff members themselves to ascertain their judgments about the Apre-service@ training they received, any subsequent in-service-training, and their perceptions of training needs. The aim of the research was to balance the ideas and opinions of a panel of experts with field observations in one of the most active countries in telecenter development, South Africa. The survey provided a general background to frame the field observations, while the case study showed the practical application of the conclusions of the panel and tested the functioning of those ideas in a precise context.

The special attention to training in this study has revealed other interconnected elements of the system that contribute to the particular nature of a telecenter project. Data analysis indicated that there are many variables that determine the design and implementation of a training program for telecenters personnel. Telecenters are systemic entities composed of interrelated elements: incorporation of research (feasibility studies, needs analysis and evaluation), organizational planning (clarification of telecenter objectives, for example), opportunities for sustainability, infrastructure, policy framework, social and cultural background, community participation, capacity building (not only of the staff, but also of the community served). It is important to note that these patterns are not independent from each other, but they are intimately intertwined and dynamically interact with each other in different ways to explain the studied phenomenon.

The results of this preliminary research principally led to the development of a training strategy that includes topics for training, specific training content, and resources for use in training. Although opinions of what should be in the training of telecenter staffs depends heavily on one=s conception

of a telecenter, the initial research pointed to a list of topics to be developed as modules in a training manual for telecenter managers:

1. Principles of Communication for Development

2. The role of telecenters in development

3. The role of the telecenter manager

4. Basic computer skills

5. Strategies for telecenter sustainability

6. Information production skills

7. Needs assessment and evaluation skills (research methods)

8. Training skills

9. Participation skills

10. Marketing and public relations skills

Additional fieldwork
After the analysis of data from the survey and fieldwork in South Africa, the researchers visited telecenter projects in Australia, Hungary, India and Canada. The objective of the fieldwork was not only to study telecenter projects in these countries but to compile training materials that were already being used by telecenter managers and could be adapted for the manual.

Production of the Manual

After completing fieldwork and sorting out training resources, the researchers proceeded to organize the production of a training manual composed of the modules listed above. From September to December 2000, a group of graduate students at Cornell University was recruited to discuss the contents of the manual and start drafting the modules. From January to May 2001, the main researchers refined the first draft of the modules with help from graduate students and administrative staff.

Manual review and field test
In June 2001 most of the modules were ready for appraisal. In the summer of 2001 the modules will be sent to a panel of experts for review. The manual will also be field tested in India, where two different groups of telecenter managers will critically examine the contents and format of the handbook. One group will consist of persons who are already managing telecenters, with the second group consisting of persons who are preparing to become telecenter managers. These persons will participate in focus group sessions to provide feedback on the various modules in the manual.

Dissemination
After analyzing the feedback process, the researchers will then make the necessary changes to the original draft and will explore ideas with ITU on how to make the final version widely available to the telecenter community.

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