

PART 1 THE ROLE OF TELECENTERS IN OUR COMMUNITIES¹

ITU Launches Multipurpose Community Telecentre Initiative in Africa 20 African Countries to be Focus of Project that will Empower Women

Geneva, 10 January 2005 — The International Telecommunication Union (ITU) is launching an initiative to establish a network of at least 100 Multipurpose Community Telecentres (MCTs) in 20 African countries. The MCTs will provide critical access for communities to Information and Communication Technologies (ICT), to help ensure these communities can obtain the social and economic benefits that come with participation in the Information Society.

The MCTs are to be managed by women, which will enable them to actively participate in the development and decision-making processes of the African continent. This initiative is in partial fulfillment of the commitment made by 175 countries to a Plan of Action at the first phase of the World Summit on the Information Society to extend the benefits of ICTs to all of humanity.

ITU Press Release http://www.itu.int/newsroom/press_releases/2005/02.html

You and your telecenter are part of an important worldwide movement. For about 15 years — since “telecottages” began appearing in countries as widespread as Sweden and Australia — telecenters 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; however, some multi-purpose community telecenters provide information-related services involving other media such as audio and videocassettes, publications, newspapers, and community radio.

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 in Geneva, the United Nations Development Program (UNDP) in New York and others. Various national governments have actively supported the development of telecenters as a means for people to share the use and advantages of information and communication technologies (ICT). Examples include South Africa, Egypt, China, Nepal, India, Hungary, Australia, Mexico, Jamaica, Chile, El Salvador, Taiwan and Canada. Non-governmental agencies (NGOs) and individual shop owners are also active in setting up some form of telecenter. You can see these in places from Uganda to Peru.

In this chapter, we will explore the role of telecenters in their communities by looking at several examples. We will also look at other media that can join telecenters to make up a larger community communication system and provide access to persons who, for various reasons, cannot use the newer ICTs.

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. An example from China:

¹ This is adapted from Module 1 of Royal D. Colle and Raul Roman, *A Handbook for Telecenter Staffs*. The full *Handbook* is available at <http://ip.cals.cornell.edu/commdev/handbook.cfm>.

Bai Yuxiong, a farmer from a poor area in northern Shaanxi Province, traveled at least 500 kilometers to Yangling Agrosience 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 telecenter 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. You are part of this worldwide telecenter movement.

1. THE INTERNATIONAL DIMENSION OF ICTs

International and national organizations are investing in telecenters because they believe communities benefit from having accurate information, and telecenters are an important way of providing information especially for persons who cannot afford computers or the increasingly important broadband network connectivity. International organizations believe that information technologies are a key to providing timely and useful information on subjects ranging from market prices to health care, and to the Millennium Development Goals which have been adopted by the international community. The United Nations General Assembly has said 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." And because many in the community do not have *individual* access to these technologies, telecenters (much like a telephone kiosk) provide shared access and a gateway to cyberspace.

The places in the community with shared access to computers and the Internet have a variety of names. We can put them into three broad categories.

Telecenters. Multi-purpose community telecenters tend to be in the public sector, operated by governmental bodies or non-governmental organizations (NGOs), serve a low-income clientele, and have a community development mission. Typically, telecenters offer a broad range of communication services related to the needs of the community, some of which are free or subsidized by external bodies such as governments or NGOs. Along with computer and Internet access, these services might include: desktop publishing, community newspapers, sales or rental of audio and video recordings, book lending, training, photocopying, faxing, and telephone services. Some – like the Hungarian telecottages and the Western Australia Telecenter Network telecenters – provide postal, banking and employment services.

Cybercafés The commercially-oriented cybercafés that are found on streets adjoining China's Tiananmen Square to the neighborhoods of Buenos Aires have been an equally energetic movement. They are usually in the private sector and focus primarily on providing customers with the use of computers and connections to the Internet and the Worldwide Web. Their clients tend to be more urban, more educated, and more economically well off than the clients of telecenters. The principal attractions at the cybercafés are computer games and e-mail. For example, there are 26,000 PC *baangs* in Seoul, Korea where people under 30 go to socialize and play on-line computer games. The PC *baangs'* support comes from consumer fees

and sales of refreshments. Similarly, in Peru, almost 3,000 private sector Internet *cabinas* are sustained by charging fees to users (about US\$0.40 per hour) for PC, e-mail and Internet services.

IAP. Information access points fall between the cybercafé and telecenter approaches. While they focus on the Internet, they emphasize information seeking. The most dramatic example is Canada's Community Access Program that established 10,000 access points in rural and urban areas across the country between 1994 and 2001. Computers and network connections were placed in community centers, libraries, schools, and other public places in order to make Canada "the most interconnected country in the world." Canada's success has motivated other national IAP initiatives: the Government of México designed a network of Centros Comunitarios Digitales (DCCs) as part of its Sistema Nacional e-México. The Government's plan is to have more than 12,000 DCCs by 2006, covering 75% of the nation's population. Across the world, in the State of Tamil Nadu, the Sustainable Access in Rural India (SARI) initiated a plan to establish "tele-kiosks" in up to 100 villages in Madurai District as the first phase of an initiative that will see thousands of IAP kiosks flooding villages all over the state.

IAPs sometimes are reinforced by sectoral organizations such as those in health and agriculture that build special information systems. An example is the World Health Organization which has set out a seven-year plan to establish the Health InterNetwork Project. It is an initiative to facilitate the flow of health information worldwide using Internet technologies. Among its provisions are (1) making available reliable and relevant local and international public health content and (2) establishing 10,000 to 14,000 new public health information access points linked to an Internet-based HealthInterNetwork portal.

1.1 The information debate

In your community, you may hear a debate that also 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 the most important priority in meeting the needs of the people. For example, a woman 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?"

We created a fictional discussion that is often repeated in various forms, and it may occur in your own community. It is based on observations made by Johan Ernberg, former official of the International Telecommunications Union who is one of the earliest supporters of telecenter development.¹

Official: I'm not convinced that people, particularly ordinary, mostly poor people, in this country really need these information technologies and the telecenters. 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 telecenter 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?

Telecenter 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.

Telecenter volunteer: Perhaps with better information resources, we have a better chance to keep our young people from migrating to other areas. Besides, with a telecenter, 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. And do you know how much the people around here save by getting government documents through the net? That means a lot – especially to poor people.

1.2 E-Governance and Telecenters

The practical side of telecenter benefits is illustrated by a case in one country where the Internet can be used for obtaining official government documents. Consider how your telecenter might bring e-Governance to people in the community. In the state of Madhya Pradesh in India, the district government cooperates in a system where 26 rural information centers are serving half a million people. According to one report, the system has a significant impact on the rural and farm population. Information on daily prices and produce volume is provided from major national agricultural produce markets. Farmers can get printouts of land records that they need for getting crop loans from banks. Anyone can file applications on-line for government benefits and services and post grievances. Users can send e-mail in Hindi to each other or to connect with village level institutions and district offices.²

Here's an example of what a telecenter e-Governance service can mean. In one Indian community, the ordinary system for getting a simple government application form costs a person at least four times what the cost is for using the Internet to apply for the form and then going to pick it up when it is ready. The details:

In Tamil Nadu (India) a district government is participating in an arrangement whereby people can request some official documents by e-mail. Normally this process takes two steps, which means two trips. A team that is part of a project called SARI (for Sustainable Access in Rural India) has calculated that the cost of physically traveling to request the document is about four times the cost of initiating the request by e-mail. Here's the calculation based on interaction with villagers and kiosk operators in Madurai. The currency is in Rupees (40=US1.00).

| Govt. Application Cost | TRIP ONE | TRIP TWO |
|-------------------------------|-----------------|-----------------|
| Writer | 20 | - |
| VAO sign | 50 | - |
| Travel and Food | 20 | 20 |
| Salary loss | 50 | 50 |
| Application Cost | 7 | - |
| Sub TOTAL | 147 | 70 |
| Taluk Office Bribe (minimum) | 50 | |
| TOTAL | 197 | |

Trip One is to give the application form to the office (this assumes that the person has the proper application form and does not have to hunt for it or pay a tout for it). Trip two is to collect the certificate assuming that the certificate is ready. *In case the certificate is not ready, Trip Two will be repeated.*

At the village kiosk the applicant pays Rs. 10 to send the application (cutting out all the expense items from Trip One). A trip still needs to be made to collect the certificate but this is only undertaken after the acknowledgement from the respective office has come letting the applicant know that the certificate is ready. Thus, repeated trips need not be made. Here the cost of the application form (Rs. 7) needs to be added to the Rs. 70.

— Richa Kumar, personal communication

1.3 The Telecenter at Nakaseke³

Telecenters range in size and description and services. Let's visit a telecenter operating in Uganda to see some of the lessons that have been learned at this early stage of the telecenter movement. The multipurpose community telecenter (MCT) at Nakaseke, located outside of the nation's capital city, was assisted by a group of international development agencies.⁴

Background and Context

Nakaseke is located approximately 50 kilometers north of Kampala. 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 telecenter started, there were no newspapers available in Nakaseke; they were available at the next town, which is at the end of 16 kilometers of a rough road.

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 the 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 boreholes and a protected spring.

The multipurpose telecenter is different from the many cybercafés and IAPs around the world that are almost 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 telecenter also has a telephone and fax for use by the public. Let's take a closer look at this telecenter and the setting in which it operates.

Description

Life has changed in Nakaseke, which is north of the Ugandan capital, Kampala, and 16 kilometers from the nearest town, Wobulenzi. Now a modern telecenter 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 telecenter 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 telecenter 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 the relatively high running costs for 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 local young people from Uganda Connectivity — a group concerned with Internet access.

The telecenter 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 telecenter is, therefore, primarily tailored towards meeting the needs and aspirations of its core target groups.

The early users of the telecenter services were:

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

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 from 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, Nakaseke 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.

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 telecenter 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 is not to test a new technology but rather to test a new service.

Computers in Nakaseke are no longer strange and mysterious machines. The telecenter 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 telecenter, 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 telecenter development. Management systems have been tried and established for sustainable telecenter operations.

The telecenter has proved that a MCT in rural areas is useful for development. A good number of development groups have visited the multipurpose telecenter with a view toward 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 telecenter. A local steering committee representing each of the core target groups was elected by the community to supervise the telecenter's daily activities, liaise with the management committee and mobilize the community.

The telecenter 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 telecenter, 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. [End of *Making Waves* text.]

1.3.1 Lessons learned from Nakaseke

We can extract some ideas from the Nakaseke 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. The telecenter staff built relationships with local organizations such as schools and hospitals.
- Various community media and local opinion leaders were used to build and maintain awareness of the MCT's services and benefits for the community.

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 now exist in many communities – and ask how these might be part of a comprehensive approach to using our communication resources profitably. The task for the telecenter staff is to explore how these other community media can be partners with the telecenter for the benefit of the people. Some of them may become a part of the telecenter's own resources

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 *TamTam 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.⁵ As you read the following sections, consider what channels of communication – both media and interpersonal channels – exist in your community, and consider how these can help with the telecenter's mission. We have inserted some of our own comments in brackets such as these [].

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 distinct 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-centered 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.

Radio provides a forum for rural people

In Chad, radio was used in a 1991-92 campaign to stop intentionally lit bushfires. These fires were traditionally used to clear agricultural land for planting. With degraded, fragile soils and the accidental spread to forest reserves, this age-old practice was no longer sustainable. Radio broadcasts were used to encourage villagers to voice their opinions and propose solutions to the problem. The result? Within one year, forest fires were reduced by 90 percent, 22 villages had active bushfire control committees and firebreaks protected 10, 000 hectares of forest.

A villager's story, recorded in a radio programme about bushfires:

"My uncle once told me how a bushfire burnt his field: 'That bushfire was angry — it charged like a herd of elephants, destroying everything! Even came near to our home!'

"I said, 'Don't be scared. With the right words, a good hunter can stop a herd of charging elephants. We, too, can stop bushfires with the right words.'

""What words?""

"Let's unite. If the entire village gets organized to fight bushfires, you'll never be afraid of bushfires again!"

From these early efforts, a design for rural radio evolved that 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 centers, 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.

[The approaches used in rural radio also appear in urban areas. Thus, we have begun using the more general term "community radio" to refer to broadcast stations that are significantly woven into the fabric of a community, with local participation effective in shaping the policies and programming of the station.]

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.

[The availability of digital video increases the potential of video as a tool that telecenters can incorporate into their services. Combining digital video with computers and compact disks gives a telecenter and its community the tools to create visual materials to support agriculture, health, education and small enterprise information and training activities. Digital photography expands these opportunities.]

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.

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 that enables rural people to address their information and knowledge needs [and] 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.

Participatory video in Mali

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

In the early 1980s, an FAO project in Mali had 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 center. The project began by training a group of "audiovisual pedagogues" who were then hired by the Center. The project focused primarily on multimedia training of farmers, but also included 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 that emphasised private-sector initiatives, income generation and financial sustainability resulted in the commercial evolution of the Center and the widening of its audience.

2.4 The Internet

[In this 21st century, the computer and the Internet have driven the newly aroused international interest in the use of ICTs for development. Yet, as this module of the *Handbook* suggests, other media are still important in community communication. However, the increasingly important role of the Internet dictates further attention to its distinctive features. Thus, we continue with the FAO discussion.]

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 use 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 that 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 "telecenters." 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.

Telecenters are relatively recent phenomena....Telecenters 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 telecenter information accessible to wider audiences.

Telecenters should not be seen as just information technology centers. They can also facilitate local sharing of information and help create common, local development visions. Telecenters 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 telecenter facilities in an integrated effort to support community development. Telecenter 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 telecenter support staff and users. For example, the agricultural and rural development applications of telecenters 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. [End of FAO text.]

2.5 Audio recordings.

The simple audiocassette and its successor the CD are among the most effective and efficient communication devices available today. Unfortunately their simplicity causes them to be overlooked. Audio cassette technology has been used for sharing information with women at *pilas* (community laundering sites in Guatemala), in individual homes in the hills of Honduras and in the rural USA, and in farmer and women's listening groups especially in Asia and Africa.

The low cost for production and for consuming, along with its mobility and literacy-free attributes, make the audio player an important medium in this day of complex, sophisticated digital media.

Audio materials can be readily produced locally and the players and cassettes or disks can be loaned through the telecenters to people in the community. As in the employment of any medium, of course, the quality and character of the content is vital. In Honduras, project leaders were able to train local groups to produce good programs, including "entertainment-education" dramatizations that used local talent.

One of the important uses of audio players can be in localizing material from the Internet. Much of the Internet content is available in languages other than those spoken by many in your community. And even if they speak English, the way Internet information is presented may need adaptation to the language style of your community. As we will see in the next section, creative telecenter people have "converted" Internet information to other media. Audio cassettes and CDs present opportunities for this kind of conversion along with material produced by schools, health clinics and extension agents. The telecenter can lead in these audio production efforts, and also provide finished tapes and CDs as a telecenter service. This arrangement may also be a source of income for a telecenter.

Newer computers have devices that can "burn" (duplicate) CDs – which makes it possible for telecenters to offer both audio cassette tapes and CDs.

3. THE INTERSECTION OF TELECENTERS AND COMMUNITY MEDIA

We have explored these other media to make the point that telecenters, 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 (what we have called IAPs) 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 program 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 telecenters 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 can visit Pondicherry in south India where we find a "Village Knowledge Center."

3.1 Village Knowledge Centres in India⁶

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 woes 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.

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

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. To link ecological security to livelihood security in a mutually reinforcing manner. The Foundation's 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 C\$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.

Formerly called "information shops," the Village Knowledge Centres were established by the M.S. Swaminathan Research Foundation (MSSRF) 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 center-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 center 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. [This hub serves as a “value addition center” – that is, a place where raw content is molded into information appropriate for local communities.]The value addition center 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 center. A local area network based on Very High Frequency (VHF) radio has been established with the Villianur office serving as the 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.

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 Center 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.

Media and methods

“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 M. S. 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 center, 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.

Constraints

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 into the Tamil language.

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. [End of *Making Waves* excerpt.]

3.2. Lessons from the Village Knowledge Centres

This visit to south India illustrates several points that are important to telecenter 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 telecenter. The Village Knowledge Centres (VKC) sought out women, marginal farmers and other similar categories of people for active roles in the Center.

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 centers helped justify the creation of the “value addition center” 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 Center.

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

4. BUILDING PARTNERSHIPS

Don Richardson, a Canadian consultant for the Food and Agriculture Organization, points out the importance of intermediaries in helping people take advantage of information resources. He suggests that we cannot expect poor farmers and others facing poverty in rural communities to list computers and digital telecommunications services as high priority items for improving their lives. “However, he says, “there exist various intermediaries that serve these populations which, together with small and medium enterprises (SME) in rural areas, can take advantage of these technologies to improve their work, improve communication capacity, gain efficiencies, and reduce telecommunications costs.”⁷ Telecenters need to explore partnerships that can result in intermediaries.

Experience from around the world suggests that telecenters can benefit very much from partnerships with various kinds of groups and organizations. To provide support for telecenters in Canada, the government uses an application form that requires an organization to identify potential partnerships. As you have probably already realized, partnerships can be important in mobilizing the resources needed to get a telecenter started. Partnerships can also be important in continued support for the telecenter and for keeping in touch with important user groups.

4.1 Telecenter initiatives and agricultural extension

We find that government agricultural extension services around the world are faced with problems of inadequate funding, transportation and other resources for serving agricultural workers. Because the *function* of extension is vital to a healthy agriculture, nations are seeking alternatives to the traditional systems. An example in China probably represents many other countries that have a substantial number of small farmers. These farmers need new skills, knowledge and market information to meet the challenges of modern agriculture. Among the alternatives to the central government system are private and commercial extension systems. And within the past 10 years in China, *farmers’ associations* have grown in number to more than 150,000. These help farmers where a public extension system is lacking or is insufficient. The associations provide technical and marketing services to farmers.⁸ Telecenters in rural and agricultural areas can contribute to agricultural development by becoming an extension partner. The telecenter can support the associations by finding out what their information and communication needs are, as well as those of their farmer members, and discuss with them how best to serve those needs. Then, the telecenter can

(1) help build a collection of specific localized agricultural information and publicize among the farming community its availability.

(2) train and assist representatives of the associations in using the telecenter's ICT resources – from the Internet to audio cassettes – for its members' communication and training needs, including group training via distance learning facilities.

Intermediary organizations

Intermediary organizations such as extension field offices, rural NGOs, health clinics, government offices, and church organizations together with SMEs, can offer benefit to their rural client groups in numerous ways. Strategies for improving Internet access and use for rural and agricultural development will necessarily involve full participation of intermediary organizations and other rural stakeholders.

— Don Richardson, *The Internet and Rural and Agricultural Development*, FAO

As we note elsewhere in the *Handbook*, women farmers are especially in need of extension services. This is another situation in which the telecenter can work with small groups. For example, in India a veterinary university organized ICT training programs for representatives of Self-help Women's Groups and is making a special effort to have relevant information and communication facilities available for them.

4.2 Principles for partnering

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 telecenters.⁹

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.

5. SUMMARIZING THE ROLE OF TELECENTERS

Telecenters 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 telecenter experiences worldwide:

1. Telecenters should concentrate on being *demand-driven*. This means that you should systematically promote the value of information and keep in close contact with all groups in the community whose needs you must understand so that you know what their information and communication needs and wants are.
 2. Telecenters should think of their product as information and communication *services*, rather than information and communication technology. One of your important services is “adding value” to network information and databases (such as the www) that will make the information available from them relevant to their users.
 3. Telecenters 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. Telecenters 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. A telecenter can reach many people who can benefit from information – but who are not able, or who are afraid, to use a telecenter – by working with intermediaries in the community. You can involve extension staff, health workers, teachers and others who may have good links to those elusive or reluctant people.
 6. Training is a vital part of the early life of a telecenter and it should continue as a regular part of the telecenter's priorities. Volunteers who help run the telecenter, a core of early, enthusiastic and visible supporters in the community, those attracted to the door of the telecenter, and staffs of local agencies – all need to be on the priority list for training. While technical training is important, knowing how to link the telecenter to community development efforts is also important.
 7. While telecenters will be important places to work, they should make a serious effort to make the telecenter a nice place to be.
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End Notes

¹ The issues appear in Ernberg, J., "Empowering Communities in the Information Society: an International Perspective," in Richardson, D. & Paisley, L. (eds.). *The First Mile of Connectivity*, The Food and Agriculture Organization, Rome, pp. 191-211.

² Nancy Hafkin and Nancy Taggart, "Ensuring Women's Ability to Take Advantage of Information Technology Opportunities", *The Journal of Development Communication*, 11/2 (December 2001).

³ 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 the *Handbook*.

⁴ The international agencies assisting the Nakaseke telecenter include: The International Telecommunications Union, UNESCO, IDRC, DANIDA and the British Council.

⁵ 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.

⁶ Excerpted from Dagon A. G. (2001). "Village Knowledge Centres," in *Making Waves, Stories of Participatory Communication for Social Change*, New York: The Rockefeller Foundation, pp. 319-323. The original text was edited slightly to fit the needs of the *Handbook*.

⁷ Richardson, Don (1997). *The Internet and Rural and Agricultural Development*, Rome: Food and Agriculture Organization, p. 47.

⁸ L. Yonggong, "Institutional and Policy Reform of Rural Extension in China During the Transition Toward a Market Economy," in *Training for Agriculture and Rural Development*, Food and Agriculture Organization, Rome, 1998.

⁹ 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.