Case Study

Benin

Power to the People

Entering the information age[1]

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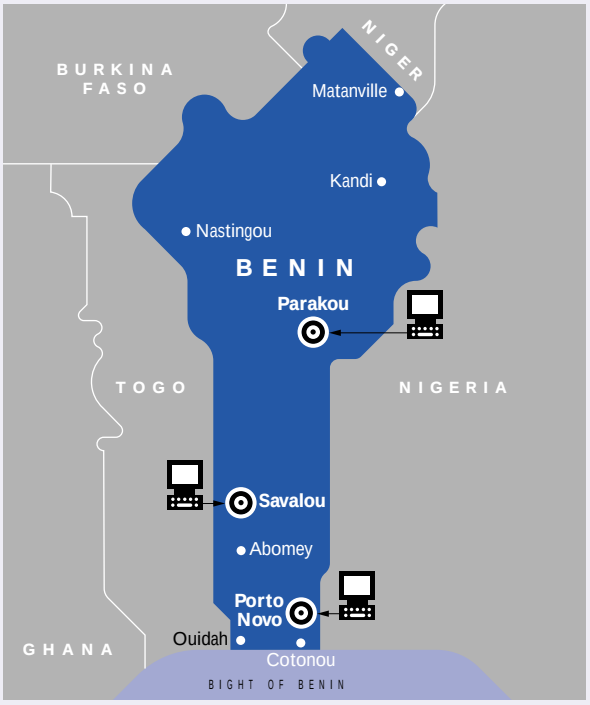
In 1996, a team from the Leland Initiative[2] landed in Cotonou to conduct an assessment. Their mission was to explore the possibility of achieving a key Leland objective in Benin—the widespread use of information and communication technologies (ICTs) among USAID's development partners to promote sustainable development. Under review were key considerations indicative of readiness and potential success, ranging from national telecommunications policies to available infrastructure to current and future demand for Internet access.

Two years later, a recommendation emanating from that visit led the staff of USAID/Cotonou to speak with LearnLink about implementing a modern technology activity in Benin. The conversation concerned the country's potential to serve as a pilot site in Francophone Africa for community learning centers (CLCs)[3] —aka telecenters—to serve local people largely unfamiliar with ICT uses and benefits. Could such an activity provide a broad constituency in Benin with valuable educational and communication services? Could it generate important lessons for African institutions and other USAID Missions working to support the continent's entry into the information age? Should it command limited resources in light of urgent basic needs in Benin? The decision to proceed was not made lightly.

This is the story of the Community Networking Service (CNS) Centers in Benin. Though the actual activity is over, the story has just begun. Told with the benefit of hindsight, it is not so much about the past but speaks instead to the future, seeking to share noteworthy lessons and useful insights for the people, projects, and progress to come.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TELECENTRES COMMUNAUTAIRES


telecel

Benin: Country Context

Most of Benin's 6.5 million people survive through subsistence agriculture or work in the service sector. Poor but picturesque villages, reached by footpaths winding through lush terrain from main roads, are dotted with thatched houses surrounding small courtyards. Just 20 percent of the country's roads are paved, and most villagers live without electricity or running water. In many parts of the country, villages have not changed much in centuries—and in some respects, villagers have not changed much, either. Women still pound yams in wooden buckets and carry produce on their heads, walking miles each day to fields and roadside markets, children and infants in tow, and then back home again as night falls. Women have about six children during the childbearing years, and infant mortality is high. Over half the population is illiterate, and life expectancy is a mere 54 years.

Benin is ranked 147th of 162 countries in the Human Development Index,[4] listed below the marginalized in an "other" category on the Technical Achievement Index of 72 countries.[5]

Socioeconomic conditions are exacerbated by minimal infrastructure. With one of the lowest teledensity rates (people per phone line) in the world, just seven telephone lines served each 1,000 people, and fewer than 39,000 telephones were available nationwide.[6] In 1999, only 1.5 per 1,000 people had a personal computer, and Internet users numbered a mere 10 per 1,000.[7]

From a development perspective, Benin's needs are great—for better educational opportunities, health care, economic development. Basic needs are the priority.

Time still moves slowly in villages and on farms, trends nationwide suggest that a transformation is underway. Population is shifting, and education is improving. Half of Benin's population is under the age of 15, and over 80% of children are enrolled in primary school. While the gap between girls and boys remains high—in 1999, school age girls were almost 40% of the total enrolled in primary school—it is decreasing. And though 40% of children who enroll in primary school drop out before completing the sixth year, more young people are receiving some education than ever before. At the same time, many have started to leave the villages, flocking to the congestion and pollution of Cotonou, the country's largest city, in search of new opportunities. Over 40% of the population lived in urban areas in 2000, and that is expected to increase to 53% by 2015.[8]

In this context, the Community Networking Service (CNS) Center activity was launched. No doubt critics opposed it as unnecessary, unrealistic, or simply not the priority in light of more compelling and competing needs. Development, many say, should deal with basic needs first, particularly in a country like Benin.

One of the first lessons emerging from ICT experience worldwide, however, is that such activities are not in opposition to "basic needs" programming. The choice is not between one and the other. Indeed, ICTs can be highly effective tools for meeting basic needs, not only strengthening traditional development approaches but providing access to resources that can help lead disadvantaged populations out of poverty. Moreover, ignoring the role of ICTs in the world today can put those on the other side of the digital divide even further at risk, marginalizing them even more from mainstream social and economic development both within their own nations and in the world at large.

Determining Readiness for ICT Activities

Despite Benin's social and economic challenges, one of the country's strengths is its relative political stability, which provides a justification for attempting an ambitious activity like the CNS Centers.[9] The USAID/Cotonou web site summarizes Benin's political climate as follows:

Benin is one the few French speaking West African states considered a model of democracy. It has successfully established a democratic political system based on consensus. Since the National Conference of 1990, democracy in Benin has experienced significant progress and remarkable development. Benin is engaged in an important legal, institutional, and regulatory reform to establish a more favorable, enabling environment for private initiatives. It is believed that, at term, these efforts should boost the economy by attracting foreign and domestic investment. Despite its status as a nascent democracy, the Government as well as the people of Benin are taking important steps towards laying the foundation for rule of law by establishing stable political institutions that have withstood the test of time. (http://www.usaid.gov/bj/democracy/index.html).

Other criteria also prove critical when assessing readiness for ICT activities—or "e-readiness." According to the Leland Initiative, the first step is to determine readiness at the country level by assessing (a) telecommunications policy, (b) technology, especially Internet infrastructure and the Internet Service Provider (ISP) industry, and (c) Internet end user applications. Assuming no insurmountable obstacles in those areas, the second step, used to identify local partners with whom to work, involves six indicators to measure an institution's readiness for effective use of ICTs and the Internet. These include:

- Whether or not the organization has in place an institutional information/communication strategy;
- The extent to which the institution is producing and using publications and databases;
- Whether or not the institution recognizes the potential contribution of the Internet to its organizational mission;
- If there is an individual in the institution who could serve as an Internet "champion" or catalyst;
- The status of the institution's telecommunications and computer infrastructure; and
- The potential for sustainability.

Centre Songhai: Providing Leadership and Vision

Perhaps the most important reason for proceeding with the CNS Center project was Father Nzamujo Godfrey Ugwuegmulam. Director of Centre Songhai, Father Nzamujo is not only a microbiologist, rural development specialist, and renowned agriculturalist—the Centre's core business—but also a highly trained computer scientist, a rare combination and an invaluable asset in the telecenter business. Under his leadership, Centre Songhai promised to bring the necessary vision as well as the needed technical competence to the task. Indeed, Father Nzamujo's commitment to "turning the lights on in Africa" is matched only by his dedication to ending hunger on the continent. True to his word, he integrated "CyberSonghai,"—the activity's unofficial title—into Songhai's primary agricultural sustainability mission with a passion. Adopting the telecenters as a primary personal and professional goal, he brought to the project insights and experience that moved it forward in the face of formidable obstacles.

As envisioned in the project document, locating the telecenters within an existing and well established local institution provided them with valuable additional inputs and support and contributed to their success and sustainability. The methodology is known as the "adoption model," in which an existing group integrates the activity into its ongoing operations. In the case of the Songhai Center, the activity was able to rely on a well established NGO with mature administrative and budgetary systems and a good reputation in the community as it introduced its telecenter services. The telecenters did not have to be "invented" as new entities lacking history, context, or local trust. The Songhai Center also was able to focus its initial outreach and marketing efforts on current staff, clients, and constituents, all of which provided an early and important foundation for sustainability. In addition, inputs not anticipated in the original design or budget were needed, Songhai was able to draw on its own resources to provide them. Working with Songhai also had a multiplier effect by enabling the introduction of ICTs to groups with whom the organization already had relations. In short, the Songhai Center's role as the telecenter host was a major and mission critical factor leading to the success of the CyberSonghai telecenter activity.

Benefits of the adoption model have been noted in lessons from telecenter experience globally. These experiences also indicate, however, that the success of the model depends largely on the extent to which the NGO is well established and connected in the community it serves. In the case of Benin, the Songhai Center proved to be an excellent choice. With its dynamic director, who is knowledgeable about ICTs and committed to extending digital opportunities in Benin, as well as Songhai's strong management systems and multiple sites throughout the country, the telecenters benefited greatly from their association with Songhai, and prospects for their long-term sustainability are strong.

Experience in Benin and globally also suggests a relationship between the telecenter's success and the extent to which it is integrated into the core business of the host organization. Father Nzamujo made this integration a priority, introducing Songhai staff, students, and a wide range of visitors from the continent and around the world to the telecenters. Employees and student farmers at Songhai were the first to receive ICT training, provided with email addresses and accounts, and encouraged to use the

Father Nzamujo addressing a Nigerian delegation at the Porto Novo Center

telecenters. While some might question the usefulness of ICTs for rural communities, the Songhai Center's Director understood and articulated their value through staff meetings, presentations to visitors, and Songhai's publications and web site. Songhai's senior management also consistently used ICTs, thereby demonstrating ways in which information and communication technologies could further the organization's work and benefit individual users both personally and professionally.

Benefits from Centre Songhai

An equally valuable lesson from Songhai is that locating a telecenter within an existing organization also can benefit the organization itself. According to a project evaluation, the telecenter activity produced many positive changes in the Centre, including "adding a more dynamic dimension to its work" and "broadening the perspective and spirit of Songhai personnel." The majority of Songhai staff now have a telecenter membership card and make use of ICT applications and communication opportunities on an increasingly regular basis. The telecenters also have improved relations between Songhai and the outside world, introducing the Centre to other institutions working in the field of rural development and development communications—and increasing awareness of Songhai on an international level. By the end of the three-year activity, Songhai had received an 80% increase in the number of requests for collaboration and interest expressed in training in sustainable agriculture, which the Centre attributed to its new web site. Songhai also emphasized other ways in which the telecenters supported its work, including

- helping to solve problems related to product marketing through Internet communication;
- demystifying the Internet for rural residents, Songhai's primary clients; and

Box 1 From the Centre Songhai web site: *www.songhai.org*

There is an urgent need for African countries to…participate in the…world society of information and communication, and to this effect, the access of rural African people to efficient communication technologies will go a long way to bridge the gap between rich and poor countries.

The quantity and quality of production is a function of the quantity and quality of information available. In this way, Songhai expects to share the information it holds with other development partners. In short, we intend to create a favourable environment for rural African people to gain access to information technologies as an additional basis for sustainable development.

In the third millenium society, the sharing of information shall be a catalyst for progress. The Songhai telecenters are therefore spaces of transmission and exchange of information as well as…centres for secretarial services.

Apart from farmers trained by Songhai, village associations, local communities, agricultural entrepreneurs and other players in the field of rural development shall benefit from the informational support of our movement. *http://www.songhai.org*



Father Nzamujo

- providing farmers in Benin with networking opportunities both nationally and internationally (more than 250 farmers were using electronic mailboxes by the end of the project).

CyberSonghai also benefited in a variety of ways from its production of multimedia material for development partners, a required deliverable in this activity. Perhaps most importantly, the staff learned marketable skills through the training and technical assistance the activity provided, as well as from the production process itself. These new skills have given CyberSonghai additional services to offer its clients, opening yet another revenue stream for the telecenters. In addition, the Songhai Center produced CD-ROMs containing selected content from its library of innovative agricultural techniques, which now can be more widely disseminated. Finally, reaching out to development partners proved valuable for building relationships with other groups in the country, and introducing them to the benefits of ICTs also may help increase the telecenters' client base.

When undertaking a telecenter activity with a local partner, designers should recognize that the project presents capacity building opportunities for the partner organization itself and help ensure that the group's strategic planning takes full advantage of them. To the extent the Songhai Center did this, it paid off both for the Center and the project.

Technology Tips

The Songhai experience underscores the importance of the following practical and logistical considerations when designing a telecenter activity.

1. Substantial effort should be devoted to determining as accurately as possible the technical requirements for a functional telecenter, and sufficient resources should be provided to equip the center adequately.

Box 2 Community Learning Centers

Community learning centers (CLCs) have their roots in the old post or telegraph offices that served as central points for public information and communication in much of the world. They also build on the relatively recent phenomenon of the "business center," where services such as typing, faxing, telephoning, photocopying, word processing, and printing are offered to individuals and groups lacking individual access to such tools in their homes, schools, or offices.

CLCs emphasize the learning function of the technologies and services and their ability to increase access to basic education and lifelong learning opportunities. Unlike cybercafes, CLCs offer a wide range of training programs for clients new to information and communication technologies (ICTs). They also undertake outreach to groups who might not seek training on their own, hosting events to introduce NGOs, farmers, women, and health workers, for example, to the relevance and benefits of ICTs.

2. Equipment procured for the telecenter should include spare parts, hardware and software upgrades. Before buying equipment an assessment of local technicians and suppliers should be done. Equipment that can not be serviced locally should not be purchased.
3. Assuming effective outreach, the demand for ICT products and services almost always exceeds initial estimations. Though pilot projects are designed to test the waters, once created, the demand for ICT services often is not satisfied by pilot activities. People become accustomed to access, and their need for it and reliance upon it grows quickly.
4. Technical options are rapidly expanding, with new breakthroughs constantly available. While selecting new and unproven options is not advised, neither is purchasing equipment that may be soon outdated.
5. When determining equipment purchases, activities focused on ICT access and connectivity should be coordinated with and informed by current and planned policy and regulatory changes. Equipment selections may be determined most effectively through collaboration among the funder, implementer, beneficiary, and relevant public and private sector representatives, where the knowledge of all five can be brought to bear on the process.

As more resources become focused on NGO and other civil society organizations to diffuse ICTs for social and economic development, they will need information on relevant and affordable technologies, as well as assistance in choosing appropriate ICT technologies and accessing R&D sources for next-generation technologies to adopt.

Realistic Expectations

As with all development work, the design of ICT access activities should state clearly the intended results, including the target group(s) the activity is intended to benefit—and the support should match those desired results. A general or generic description of those who stand to benefit from ICT access is inconsistent with an activity that is highly specific in terms of budget, technical assistance, and other inputs. If the "rural poor" are the intended beneficiaries, for example, then expectations about their ability to pay for ICT services must be very realistic. In the case of the Songhai Center activity, the required deliverables included a financial sustainability plan as well as a specific number of outreach and training opportunities for largely unspecified "local development partners." However, the activity did not insist on an unrealistic engagement of the rural poor, which was appropriate given the duration and nature of the activity. In effect, the Songhai telecenter project sought to reach *those who reach the poor,* a reasonable result for a pilot activity with a limited budget.

Conducting needs assessments represents another obvious step in the development process. In the case of ICTs, such assessments should be conducted carefully because people do not ask for what they do not know. While a farmer in northern Benin is unlikely to list "increased access to the Internet" as an important need, he might say he needs access to information about lower seed prices, or improved irrigation methods, or better marketing opportunities. Similarly, rural women might ask for better medical care or educational opportunities for their children. In the case of Songhai, knowing the agricultural needs of farmers proved useful for designing telecenter products and services and for developing outreach, marketing, and partnership development activities. However, relying on preconceived knowledge and notions, particularly as they relate to another sector, may not be sufficient to achieve the ultimate goals of an ICT center. For this reason, a useful lesson for donors may be to require needs assessments to determine the specific information and communication needs of target clients and to support specific technical assistance in this area.

Management and Staff

As with all development activities, management is critical, and telecenters are no exception. In addition to ICT technical capacity, managing a telecenter requires expertise in business fundamentals, such as marketing, product and service selection, tracking users and monitoring trends, costing, scheduling, staff recruitment and training, and budget management.

The managers of CyberSonghai's telecenters changed several times over the course of the three-year activity. For the most part, each new manager was hard working who took his/her job seriously, and the telecenters themselves operated fairly smoothly.

This may be a function of the overall sophistication of the Songhai Center, which is a tightly run ship. It also may be due to Songhai's ability to identify and attract employees who, though young, possess the necessary skills and competencies. In general, however, telecenter managers clearly benefit from training in the business management and administrative functions they need to perform. While Songhai provided its managers with internal and on-the-job training, formal professional development opportunities for staff, perhaps supported through the activity contract, might have further enhanced the project's success.

Decentralizing telecenter management and empowering telecenter staff also can contribute to telecenter success. Global experience indicates that enabling telecenter managers and key staff to operate with increasing autonomy and empowering them to work proactively on behalf of the center opens the door for greater innovation and achievement. Particularly with longer-term staff that possesses sufficient knowledge of the institution's procedures and standards, a management approach that provides staff with opportunities for initiative could yield valuable results. For example, staff working closely with clients has access to information useful for identifying partnership development opportunities, determining desired products and services, designing effective outreach methods, and devising fee schedules and operating hours suitable for clients. Empowering staff also contributes to their job satisfaction, which can reduce attrition. This global lesson also proved true at Songhai, where long-term staff increasingly were encouraged to take initiative and empowered to participate in decision making. To the extent this occurred, the telecenters benefited.

Diffusing the Vision

The Songhai telecenters benefited from a Director with technical skills and a vision for the telecenters. Though the Director hired well-qualified staff overall, the turnover of staff was frequent. To the extent that recent graduates from computer science programs are to be relied upon to staff new telecenters, the problem of attrition will continue as these bright, young individuals accumulate experience and are presented with more attractive offers from the outside. The technology issues of early telecenter development are so demanding that they require continuing support and investment. Providing technical assistance visits from consultants is useful, as is their training of local staff. But it does not solve the problem of retaining qualified staff on an ongoing basis. Creative approaches to retention, such as more competitive salaries and other professional development opportunities, could help solve the problem. In short, conscious efforts to retain trained technical, managerial, and operations staff are needed to reduce attrition and ensure institutional memory and consistency.

In the global telecenter experience, one lesson that continues to emerge is the importance of engaging a "champion" with an ICT vision for the future. This was clearly demonstrated in Benin. On several occasions in which LearnLink was present, the Director shared his vision with his staff, and the experience was inspiring. From daily work with staff after these gatherings, it was clear that they had been touched by the experience—and imbued with a better sense of the overall mission. Indeed, on every occasion, staff continued to discuss the purpose of the telecenters for Benin even after the meeting. A lesson here is that sharing the vision works, and experience in Benin and elsewhere suggests that when such discussions are opened up and staff are invited to share their perspectives, ideas, and opinions—perhaps even to debate relevant topics—it works even better. Ideally, each staff member should be able to articulate the overall goals and know how his or her work contributes to their achievement. This diffusion of the vision—and perhaps the revision of the vision to meet changing circumstances—moves the process along.

One way in which this might be achieved, from a donor's perspective, is by providing key staff with additional opportunities for growth. Over the course of this activity, several such opportunities presented themselves. One was for CyberSonghai staff to participate in an exchange program with counterparts in Ghana, who also were establishing new USAID-funded telecenters. Another was for CyberSonghai staff travel to Nigeria, where Centre Songhai was initiating another telecenter project. Primarily for funding reasons, these opportunities could not be realized. However, others will arise, and future work that includes a provision for taking advantage of them would contribute to valuable staff development and might help reduce staff attrition as

well. In addition, these types of activities foster a participatory process that engages all involved in an activity, which we know from experience serves the activity well.

Outreach and Marketing: the Town Crier

Effective outreach and marketing to potential local clients and constituents is essential for success. CyberSonghai undertook a substantial number of outreach efforts—including its use of the town crier—to inform individuals, organizations, and agencies at the community, national, and international levels about their telecenters. Given the number and magnitude of the tasks the Songhai Center had to accomplish during the activity, its outreach efforts were impressive. In general, strategic planning that recognizes the purpose and potential usefulness of these efforts and includes consistent follow-up results has a greater impact on the communities served, as well as in mutually beneficial partnerships. This type of outreach is expensive, though, particularly in terms of human resources, and it takes time away from other business activities that may be perceived as more critical. For the most part, CyberSonghai staff with full plates of responsibilities also had to find time to design and implement public relations, marketing, and outreach activities. Yet experience at CyberSonghai as well as at other new telecenters suggests that the more groups to whom a center can successfully market its services, the more likely the telecenter is to sustain its operations. Fortunately, the Songhai Center's dynamic director can command an audience, and introductory information about the telecenters reached critical stakeholders. The Songhai Center's web site also helps this effort, especially with international audiences.

CyberSonghai moved the community towards ICT use in everyday life and work and established a culture of information and communication among its target groups. For long term success, CyberSonghai will need to continue to expand its program of "demonstration impact" to increase community awareness and engagement. Beyond staff, students, and visitors at Songhai sites, planned, focused activities on issues of interest to specific groups—women, health workers, the education sector, the business community, agricultural extension agents—would show the enabling effect of ICTs and demonstrate the benefits and impact on regular, everyday life for each group. A challenge for the future will be to develop and finance a robust outreach program with communities, organizations, and agencies in Benin that results in valuable, strategic partnerships. Not only would this benefit all parties, but it would diffuse ICT familiarity and use more widely in the country. Such a program is essential to ensure a telecenter's long-term viability as a community resource.

The Power of Strategic Partnerships

Strategic partnerships can strengthen a telecenter's impact and contribute to its sustainability, but planning, initiating, and maintaining them requires time, effort, and funds. Ideally, the telecenter managers would identify key constituents to contact, determine the most effective means to reach out to them, and devise with them partnership schemes that would benefit both parties. A LearnLink-administered telecenter activity in Paraguay, for example, benefited greatly from partnerships with a wide range of groups in the public, private, and voluntary sectors, who provided the telecenters with free ISP connections, training, secretarial assistance, and publicity in return for computer use and other in-kind exchanges. In one neighborhood, a group of carpenters and masons actually built a telecenter from the ground up to ensure its construction in their community.

Similarly, the CyberSonghai outreach program generated substantial business for the telecenters, particularly in Porto Novo. The extent to which these arrangements and relationships will be ongoing depends on the extent to which they continue to be nurtured and mutually beneficial. Now that the USAID-funded activity has ended and CyberSonghai has achieved the required number of deliverables relating to outreach and partnership development, continuing the program will be voluntary. Thanks to the inclusion of such deliverables in the activity, the process started off strong, and it is hoped and expected that the value of these activities is apparent to the telecenter staff and management.

Community Participation

The official title of this activity—"Community Networking Service Centers"—reflects the type of activity that was envisioned. The telecenters were to be accessible and affordable community resources, friendly and effective places for ICT training and use,

attracting clients from a variety of groups and sectors. To a large extent, this occurred, and both the experience in Benin and elsewhere confirms that a sense of community ownership contributes to telecenter success and sustainability. Ways in which community integration can be enhanced include the use of volunteers and interns, offering tours for school children, arranging exchanges with other development programs, hosting special events for particular groups—such as "women's days" or "NGO weeks"—and distributing flyers, posters, and brochures to schools and community centers.

Paying the Bills

How does a telecenter with a mission to diffuse ICT awareness and use among those on the other side of the digital divide do so when the burden of covering costs looms large? During the CNS Center activity, funds from USAID and specific deliverables that required collaboration with a variety of individuals and groups supported the process. However, expecting financial sustainability from a relatively short-term yet highly technical and ambitious pilot project, particularly in an underdeveloped area, may force a local partner to focus more on outreach to individuals and groups outside the target population—in other words, on groups able to pay.

Fortunately, once financial sustainability has been attained—or is in sight—alternative means for including disadvantaged groups are available. One option is to adopt sliding scale fees, where those able to pay essentially subsidize those unable to pay, or to pay as much, such as NGOs, students, the rural poor, etc. Another is to work with other development programs that might include an ICT training component, for example, in their implementation plan. In short, in the rush to court segments of the population able to pay for ICT products and services, methods to enable target groups unable to pay also should be devised, preferably at the outset of a telecenter activity. Fortunately, CyberSonghai's mission includes reaching out to rural communities, and its core constituents are farmers, both of which bode well for extending digital opportunities to the under-served.

The Gender Divide

CyberSonghai's final evaluation indicated that male users far outnumbered females at all three telecenters. Similarly, in training programs, women tend to enroll in the less technical sessions, such as those involving word processing or data entry. When asked, female trainees indicate a desire to work as secretaries or office administrators. There is nothing wrong with this in and of itself. However, it does suggest that a stereotypical digital divide is emerging, which major donors have pledged to bridge. On the occasions that the Songhai Center reached out specifically to women, the response was enthusiastic. Nearly 60 women, most from local NGOs, participated in an open house/Internet orientation at the telecenter in Porto Novo during its first full year of operation. Designed to introduce women to ICTs, the event included establishing an email box, distributing of a list of 20 web sites containing information relevant to African women, and demonstrating a variety of computer functions, including web surfing. It is suggested that, while Benin presents formidable challenges to the integration of ICTs into social and economic life in general, special outreach to women should be undertaken more systematically so as to avoid an in-country gender divide and assist women in taking advantage of the opportunities ICTs present.

Making the Market

Training programs for clients are essential for telecenter success, and every effort should be made design them to meet the needs of potential trainees, publicize them widely, and make them affordable to low income groups. USAID/Cotonou, AED/LearnLink, and the Songhai Center were right to include the provision of training sessions among the CNS Center deliverables. Ultimately, training potential users will make the market for telecenters because the better equipped clients are to use ICTs, the more they will frequent the telecenters. Beyond the financial aspects, however, helping people develop ICT skills contributes to the ultimate goal of ICT access activities by demystifying the technology and enabling users to take control of it and use it for personal, professional, and, ultimately, national development. Widespread publicity of training opportunities, and affordable access to them for low-income individuals and groups, also are essential to achieve development goals.

In the CNS Center activity, Songhai set its own training fees, which it determined on the basis of competing training programs and its own financial

needs. To extend such opportunities to lower income groups, subsidies from external sources may be needed. Utilizing needs assessments to determine training programs is particularly important for low income groups, whose needs likely are different from those of the students and business people who tend to be among the first participants in such programs. Similarly, outreach and publicity campaigns to attract low income users will be different than those designed to attract early adopters.

Evolving User Needs

Though equipped with state-of-the-art Internet access, the Songhai telecenters' initial and primary draw was their photocopy machine, followed by lamination and business card, greeting card, and letterhead stationery design and printing. While there is no question that providing these services where they were previously unavailable, insufficient, or unaffordable was useful, the telecenters were not established for those purposes. Nevertheless, the community needed them, and building on immediate needs is an effective way to draw potential ICT clients to the telecenters. Over time, and as it was able to offer more technologically sophisticated services, CyberSonghai tracked changes in usage, which moved on to word processing, desk top publishing, spreadsheets, and, fairly recently, to online activities, especially email. It is expected that this trend will continue. Until connections are faster and connectivity costs lower, online browsing will not increase significantly, at least among the majority of users. For more sophisticated usage, Songhai must continue to lobby for greater bandwidth and/or seek alternative connectivity means. Currently, Songhai is exploring funding prospects for a VSAT connection, which would enhance its ability to offer more affordable online services. In turn, online usage for other than email should increase. A key lesson is that usage is progressive and directly related to access opportunities, training in ICT functions, and costs. In short, expect the operational maturity of the telecenters, and the sophistication of telecenter users, to be progressive, not immediate.

From Data to Wisdom

Telecenter experts have tended to embrace the concept of a value chain of online experience, which moves, ideally, from accessing data and information to disseminating data and information to constructing knowledge to creating wisdom. Even in places where personal computers are ubiquitous, this trend has not been achieved among, perhaps, a majority of users. It is an ideal, however, that has merit, and as usage patterns in communities such as those in Benin progress, it is hoped that some semblance of the progression is realized. In subsequent ICT activities, USAID and others in a position to promote access and usage might keep this ideal in mind, using program design opportunities, for example, to help guide the process and promote the progression. In Benin, CyberSonghai is in the midst of the first two stages, with the second—the creation and dissemination of information—a major achievement. Turning data into knowledge and knowledge into wisdom is not alchemy, but it is not automatic, either. CyberSonghai will have to devise ways to make it happen.

A New Culture

Centre Songhai sums up the CNS Center impact as follows:

After a few years of experimenting, a culture of new technologies has started to take root in the telecenter communities. When there is a problem with the servers, and internal or external users are unable to access their electronic mail box, for example, their activities are disturbed, and they are frustrated. Email, as well as other computer-related functions, is becoming integrated into daily life.

It is important to note that this integration has taken place quickly. Interest in computer training and community appropriation of new information and communication technology occurred over a relatively short period of time, and today it has touched several socio-economic groups. While some may think that new technologies appeal mainly to the upper strata, the Songhai experience indicated an assimilation and absorption capacity of many sectors of society. Among the most interested are civil servants, development workers, business people, and students.

Despite the widespread interest, however, the income generating potential of the telecenters is limited due to high costs. In Benin, the infrastructure necessary for fully operational telecenters is concentrated in the large towns of Cotonou, Parakou, and Porto Novo. For this reason, connectivity costs are less expensive in Cotonou than in the other cities. A diffusion of new technologies

Box 3

Relationship With the Private-Sector

Strictly speaking, CyberSonghai does not actually *compete* with private-sector cybercafés, which tend to serve a different clientele. However, CyberSonghai follows the activities of the cybercafés and pays discreet visits to them to see how they are organized and determine their fee structure.

During start-up in particular, regular surveys and discussions with persons in charge were undertaken near the cybercafés to learn the costs of their services. This information then was used to fix prices at Songhai's telecenters.

Periodically, CyberSonghai staff visit the cybercafés to discover what is new. On the basis of this information, CyberSonghai then may offer a new service or consider reorganizing it or adjust a fee.

The nature of the services offered at CyberSonghai's telecenters differs from that of private cybercafés. For example, while affordable photocopying services are in great demand, the cybercafés tend not to offer this service. Moreover, they do not offer training programs in computer operation and applications, data entry, DTP, and other computer-related activities that CyberSonghai offers. Finally, the quality of the services provided at CyberSonghai exceeds that of the cybercafés, where clients typically are not provided with assistance but merely provided with access to a computer.

From the Centre Songhai Final Report, January 2002

Box 4

Community Impact

The short-term impact of Cybersonghaï on the surrounding communities of Porto-Novo, Savalou, and Parakou includes the following:

- The number of people taking advantage of CyberSonghai's computer training programs is approaching 1,000 at the three sites, most of whom are pupils, teachers, and NGO workers, with business people and farmers increasingly participating. While this is a small number compared to the total population, it is growing, which represents a positive trend.
- A culture of creating email addresses quickly developed in Porto-Novo, with 160 external and 55 in-house Songhai subscribers. These individuals have constant access and use it regularly to communicate with family, friends, and colleagues. Increasingly, clients use the Internet to explore web sites for personal and professional development.
- Exit surveys of telecenter users at the three centers indicate the following:
  - In Porto Novo: 43.75% expressed an improvement in their socio-professional life as a result of access.
  - In Savalou: 33.33% of users spoke about acquiring new knowledge thanks to the telecenter. They also expressed satisfaction in being able to discover, understand, and use a computer, as well as to use the digital camera for photographs and to scan images; 37.25% said their socio-professional lives had improved. Some, especially NGO workers who do not have computers, spoke about the benefits of preparing typed, formatted documents; 25.49% spoke about other changes, such as the saving of time through word-processing tools, which they view as an enormously valuable service.
  - In Parakou: 52.17% cited the acquisition of new knowledge, and 21.73% mentioned an improvement in their professional lives.

From the Centre Songhai final, internal evaluation report, October 2001.

Box 5

Elements of a Successful "Telecenter for Development" Activity

The following summarizes a basic mix of conditions, features, elements, and ingredients that contribute to the success of telecenter activities. Based on lessons drawn from the CNS Center activity, they can inform the development of similar efforts more broadly in Benin, West Africa, and perhaps beyond.

National conditions

- Sufficient political stability to ensure continued implementation of activities
- Democratic trends that enable the acquisition and sharing of information
- Legal/regulatory reform that fosters private initiatives, especially in telecommunications

Infrastructure conditions

- Assessment undertaken to determine technical requirements for availability, reliability, and affordability of electricity, telephone lines, and Internet access
- Where landline infrastructure is insufficient, alternative connectivity options are considered

Organizational conditions

- Telecenter "adopted" (hosted) by a well established local organization/institution
- Host organization produces and uses publications and databases
- Organization recognizes potential contribution of Internet
- Organization takes steps to improve and use telecommunications
- Organization has achieved relative financial stability
- Telecenter integrated into organization's core business
- ICT champion with vision brought in to lead the activity
- Senior management models ICT use
- Organization staff provided ICT training and time/opportunity to use ICTs
- A sufficient number of staff possess technical expertise

Project design

- Reasonable results requirements are set
- Appropriate target groups are selected
- Assessment undertaken to determine information and communication needs of target groups
- Telecenter adequately equipped to meet increasing demand
- Equipment appropriate to current and future infrastructure conditions, with spare parts, upgrades, and repair technicians locally available and affordable
- Deliverables include training for staff

Project management

- Telecenter staff given business management as well as ICT technicial training
- Professional development opportunities provided to staff to help reduce attrition
- Telecenter management decentralized when possible and staff empowered to contribute to innovation, achievement, and job satisfaction

Making the market

- Deliverables include outreach to other development partners and groups in different sectors
- Deliverables include affordable training opportunities for public based on needs assessments
- Deliverables include production of materials with/for other groups, thereby fostering partnership development
- Organization uses a variety of traditional and modern outreach/marketing methods
- Ongoing usage monitoring indicates changing community needs
- Fees determined through comparisons with competitors plus telecenter costs and sliding scale fees used for low income users whenever possible

to the rural zones—to farmers, small trades persons, craftsmen, housewives, illiterates, and the rural poor—is a priority for the future.

It follows that the telecenters must reinforce their promotion activities and other efforts to sensitize these groups to the benefits of ICTs. In addition, technical competences in rural areas are weak and need to be reinforced. To this end, Songhai will re-examine its personnel management policies to help guarantee greater stability in the provision of technical staff.

Broadening the user groups so as to reach the underprivileged layers of the country with affordable services is perhaps the most important challenge for the future.

Footnotes

[1] The Benin activity is part of a seven-year Indefinite Quantities Contract (No. HNE-I-00-96-00018-00) of the US Agency for International Development (USAID). It was funded by the USAID Bureau of Economic Growth, Agriculture, and Trade (EGAT) and Office of Energy and Information Technology (EIT), and other USAID Bureaus, offices, and missions. It was operated by the Academy for Educational Development.

[2] The African Global Information Infrastructure (GII) Gateway Project, also known as the Leland Initiative, was a five-year, $15 million project, designed to extend full Internet connectivity to up to 20 African nations. The project facilitates and encourages Internet use by Africans and their development partners to meet the challenges of achieving sustainable development. Approved by the U.S. Congress in l995, the initiative is named in honor of U.S. Congressman Mickey Leland who was killed in a plane accident in Ethiopia in 1989. Mr. Leland had worked extensively in African affairs and was a strong advocate of U.S. support to Africa.

[3] This paper uses the terms *community learning centers*, *telecenters*, and *Community Networking Service (CNS) Centers*, the official title of the activity, interchangeably.

[4] http://www.undp.org/hdr2001/indicator/cty_f_BEN.html

[5] http://www.undp.org/hdr2001/techindex.pdf

[6] http://www.uneca.org/aisi/nici/Documents_English/Beninpub.en.doc

[7] http://www.newafrica.com/profiles/technology.asp?CountryID=6

[8] Ibid.

[9] Worldwide the AED/LearnLink, the Leland Initiative, USAID Missions, other donors, and local partners turn calculated risk into promising development alternatives in support of projects such as the CNS centers.