

# **Evaluation and Learning System for Acacia (ELSA): Emerging Lessons**

Michael Graham  
2422 Fairmile Road  
RR 4, Kemptville, ON  
K0G 1J0  
(613) 258-2901

*Evaluation Unit  
International Development Research Centre  
PO Box 8500, Ottawa, Ontario K1G 3H9*

*February 2001*

## **Acknowledgments**

All of the people I had the pleasure to interview in Kenya, Uganda, and South Africa were generous with their time and ideas during the detailed interview process. Without their full cooperation and interest, this review would have been impossible. In addition, Boubacar Niane conducted interviews and prepared a report providing his analysis of the learning coming from ELSA activities in West Africa. Examples from his work have been included in this report. My thanks to everyone who contributed to this study.

## Contents

Introduction .....	4
Methodology .....	5
Accomplishments .....	5
Emerging Issues .....	6
Areas of Learning .....	7
Community .....	7
Management .....	10
Information and Communication .....	12
Training .....	13
Technology .....	14
Sustainability .....	15
Appendix 1: People Interviewed .....	18
Appendix 2: Reference Documents .....	20
Appendix 3: Interview Guide .....	22

## Introduction

The Acacia Initiative was launched in April 1997 to bring private enterprise, donor organizations, governments, and African communities into partnerships that would empower sub-Saharan African communities with the ability to apply information and communication technologies (ICTs) to their own social and economic development. As reported to the Board of Governors in March 1997: “Acacia is tightly focused on three goals:

- (i) to demonstrate that the benefits of ICTs can reach disadvantaged sub-Saharan communities, and the women and youth within these communities, and can amplify the inherent innovativeness and enterprise to help these communities solve their development problems
- (ii) to learn from Acacia's community-based research and experimentation and to widely disseminate this knowledge
- (iii) to build international momentum and buy-in to order to continue expansion of access to ICTs by rural and disadvantaged groups.”

An important aspect of Acacia's strategy was its stress on activities that were directed to encouraging continuous learning. For that reason, the initiative has supported a set of evaluation activities that promote the use of their findings in on-going project management. This evaluation and learning systems approach (ELSA) was adopted by Acacia to make continuous learning and evaluation an integral part of project design and implementation.

The ELSA approach includes four components:

- evaluations to establish baseline data;
- the use of ICT tools and mechanisms to facilitate learning and feedback;
- research to test the hypotheses that emerge from the body of knowledge accumulated through Acacia's program; and
- interactions among Acacia's stakeholders to ensure that lessons are shared, adapted, and used in program and project implementation.

Preliminary work on research design for ELSA started in late 1999 and was followed by an ELSA meeting in Kampala in May 2000 where a decision was made to support some in-depth project evaluations and to undertake three pan-African evaluations related to school networking, multipurpose community telecentres, and community development and ICTs. The research design for the school networking activities was undertaken at a workshop held in Johannesburg in July 2000. A design workshop was held in late August 2000 for the evaluations of the multipurpose community telecentres and community development and ICTs activities. Data collection for the school networking evaluations started in late September 2000; for the telecentre evaluations data collection started in January 2001 and is continuing. Data collection for the community development evaluations started in late November and data analysis and final report writing are ongoing.

The purpose of this report is to provide Centre management with a preview of the areas of learning that are emerging from the work supported by ELSA. It is not intended to attempt to review the entire spectrum of activities that have been supported by Acacia or the learning that may be emerging from these other activities. The analysis and interpretation that are presented

here have benefited from reviews by Acacia staff. However, it is important to stress that these insights were gathered over a short period and are based on opinions expressed by a limited number of respondents on the basis of preliminary and incomplete findings from on-going evaluations. Completion of the research and more thorough analysis of the data may corroborate or refute the impressions presented here.

## Methodology

Data gathering took place over a 2-week period in January 2001. Interviews were conducted by two consultants. The author of this report developed a guide based on background documents about the purposes of the on-going evaluations to structure the interviews.<sup>1</sup> Interviews were conducted in Kenya with the Acacia Program Officers and the Evaluation Research Associate; in Uganda with the Executive Secretary and National Program Coordinator for Acacia, with Project Officer, Acacia Uganda National Secretariat, with the UNESCO Program Officer responsible for the Nakaseke Telecentre; and with three researchers who are coordinating the evaluation activities being funded through ELSA; and in South Africa with the ELSA Coordinator, two Acacia Program Officers and three Evaluation Research Associates (one from Dakar and two from South Africa). The author also visited the Nabweru telecentre in Uganda and participated in an ELSA Workshop on School Networking in Sub-Saharan Africa (Johannesburg, 23–26 January 2001) and benefited from the presentations made about SchoolNet case studies, a field visit to a secondary school and community telecentre arranged as part of the workshop, and interactions with the participants. The same interview guide was provided to a second consultant (Boubacar Niane) to gather comparable data in Senegal.<sup>2</sup>

## Accomplishments

Before summarizing some of the areas of potential learning in Acacia's activities, it is useful to summarize some of the overall achievements of the initiatives supported by Acacia and ELSA.

Acacia was a pioneer in raising awareness in partner countries about the potential role of information and communication technologies as tools for development;

Acacia's investments have demonstrated that technology can be installed and operated under indigenous management in rural areas of Africa where previously no phones existed and in schools where computers were nonexistent;

Acacia recognized early that it was important to operate within an organizational structure and supported and encouraged National Acacia Advisory Committees. These committees have had a considerable effect on deliberations about national policies and, as a result, countries have developed or are considering ICT policies as well as policies that are sector specific, such as the role of ICTs in education and health;

---

<sup>1</sup>Appendix 1 is a list of those who were interviewed; Appendix 2 lists the background documents that were provided as reference by Acacia and used during the study; and Appendix 3 is the interview guide.

<sup>2</sup>A separate report entitled "Principaux enseignements tirés des évaluations relatives à l'initiative Acacia" was prepared by Boubacar Niane. Examples from Mr Niane's report have been incorporated to illustrate specific areas of learning. Those wishing more detail specific on projects in Senegal may wish to consult the Niane report.

Acacia worked successfully at the community level to develop participatory approaches to the introduction of new technologies and to engage local management committees in on-going ICT interventions;

Through ELSA, Acacia has introduced the concept of data collection, monitoring, and evaluation as integral parts of effective management of ICT-based activities that are useful for learning by managers themselves, not simply as “report cards” to be completed for accountability; and

Acacia’s lead has been followed by other donors and has resulted in partnerships that have led to broader implementation of ICTs in development settings (for example, WorldLink support to SchoolNet South Africa).

## Emerging Issues

Some important issues are emerging from ELSA’s work:

Acacia faces an “ethical” issue when involving communities in research activities. By funding research, facilities such as telecentres and computer labs are created and their operations are supported with external funds. There is a need to clearly define at the outset what Acacia is supporting, for how long, and under what conditions, as well as to make provisions for long-term (post-research) continuation of activities. There is a **potential tension between activities that are research oriented and shorter term and those that are seeking to benefit the community in the longer term**. To be effective in its research, Acacia must support some implementation; however, it needs to be sensitive to the choices that communities must make between ICTs and other possible development options ... as one researcher noted during an interview “people should not be forced to choose between ICTs and survival.”

Acacia may need to support research into the types of **technical options or packages** that work best in various rural settings. Despite the inclusion of surveys of the existing technical environment, difficulties related to equipment installation and connectivity have delayed implementation because of the time needed to solve problems and find alternative technical solutions. Without working technology, activities lack the backbone upon which the research rests.

Provision of adequate **technical support** to provide timely solutions to problems related to hardware, software, and connectivity continues to be a challenge. Acacia might consider increasing its efforts to find alternative methods to providing technical support for activities in remote areas.

The ICT interventions that have had success in delivering information to users have been built on **existing organizational structures**. Efforts to create local management committees to provide this structure have demonstrated the importance of ensuring full community ownership and representation and of clarifying the mandates and decision-making responsibilities of such committees.

Acacia-funded activities have often been predicated on **working with local volunteers**. Because of the demand in Africa for people with ICT skills, there are temptations for these people (especially in rural areas) to move to better paying jobs elsewhere. Research suggests that “volunteers” may need to be paid in some way; otherwise, ICT activities that are based on volunteers may run into difficulties.

**Students** have proven to be quick to assimilate training in ICTs and can be a valuable resource for teaching other students (and in some cases teachers). Greater use might be made of students to co-manage ICT facilities in schools with teachers and to provide support for ICT interventions in the community.

ICT interventions require “outreach” activities to enhance their effectiveness. These efforts are likely to require a **blending of new communications methods with more traditional means** and use existing channels of information flow in the communities. Research may be needed to find the most effective ways to link the old and new methods of communication to achieve long-term social and financial sustainability of ICT interventions.

## Areas of Learning

For discussion purposes, the areas of learning that are arising from ELSA activities have been grouped into six categories: community; management; information and communication; training; technology; and sustainability.

### Community

One of the strengths of Acacia has been its efforts to better understand how to interact with communities. Acacia support has introduced telephones, fax machines, computers, and photocopiers into communities where none existed before. As a result, **people in marginalized communities have been introduced to these technologies and have started to use them.** In Senegal, support to Trade Point has extended the timely delivery of commodity price information to rural areas. In Uganda, a woman used the telecentre to contact an agricultural extension office to find ways to reduce spoilage of her passion fruit crop, and another credited a video seen at the telecentre for improving her ability to cultivate maize, fodder crops, and sweet potatoes and to improve poultry raising. In Uganda, Mazafalu Luyima, a local 28-year-old artisan, who owned a metal workshop in Katwe, but resided in Nabweru, developed a joint venture with a Korean businessman. These examples illustrate that:

People in poor rural **communities want and need access to information** that is directly relevant to their lives. As a result, information on health and agriculture, on business opportunities, and on government programs are in high demand.

**Learning about community information needs** and how to respond to them are an important part of project planning. As one interviewee stated “we must look at what the community is doing and focus on problems they identify and help them to find solutions.”

Efforts to engage local populations and to install telecommunication facilities and get them working and hooked up to local services can often **take longer than anticipated**. Several factors such as limited community awareness, infrastructure problems, or timing of arrival of project funding can account for this delay. For example, Niane (p. 10) notes that it takes time to develop full community participation and that project planning must take this into consideration. He supports this view with a quote from a resident of Maka Coulibantang “*Nous savons que le projet ne peut que nous servir mais il faut nous donner le temps d’apprendre pour comprendre comment nous pouvons nous en servir pour améliorer nos conditions de vie; nous sommes*

*encore à l'apprentissage et le chemin n'est probablement pas court.*" In the case of the Buwama telecentre for example, the lack of telephone lines meant that delays were encountered until a more costly wireless solution could be tried. The situation was further aggravated in Uganda because until recently "load sharing" (rationing) of electricity meant that electrical power was available either during the day or at night.

Delays in implementation have as well been due to time lags between formal approval and initial funding. **Delays in timely delivery of funds** can mean that critical bills cannot be paid. For example, Acacia introduced a model for telecentre management that banked all funds that were generated by the centre (so that revenue could be used to keep the project going after funding ceased); however, delays in receipt of project funds meant bills could not be paid on time. Since the banked funds could not be used, telephone bills were not paid on time and telephone services (and therefore the connection to the Internet) were cut. As future activities are planned:

The **time required** to implement projects and initiate activities **can often be underestimated**. Communities need time to understand and accept new ideas, and further delays can occur while installing equipment and making sure it works properly. Additional time is then needed to teach people how to use the installed equipment. **Timing in the delivery of donor funds** is critical to the success of on-going activities that must pay bills for external services.

Individuals, such as a telecentre operator who is entrepreneurial and seeks alternative sources of income to support on-going activities, or a teacher who goes into the community to demonstrate what is possible and encourage broad understanding and support within the community for ICTs in the school, are the basis for enduring results. However, it can be difficult to retain the involvement of such people in the long-run. For example, the first manager for the telecentre in Nabweru left after his training to pursue other opportunities. The concept of developing a "core user group of volunteers" was also pursued by Acacia. Ugandan telecentres suggests that "voluntarism does not seem to be sustainable in a poor society where individuals are bothered more about their personal survival needs than community needs." Research supported by Acacia is demonstrating that:

Where ICT activities are effective, **committed and dynamic individuals** make a tremendous difference. Identifying key people and influencing their thinking and behaviour can have an important "multiplier effect" in changing community thinking and action.

Different options need to be explored to **find innovative ways to retain trained people**. Given the importance of these people to successful implementation, it is important to document very carefully the successes these people have had, the methods they have used, and to learn from them what it is that motivates them to work as hard as they do.

**Options other than volunteers** may need to be pursued to provide the core group of staff for ICT operations and training in the field.

Acacia has worked with **local management committees** to facilitate its entry into the communities in which it has worked. Research in Uganda notes some of the problems that can



occur with regard to the composition of these committees and to the definition of roles and responsibilities. For example, preliminary findings from the telecentre projects in Uganda suggests that steering committees in Buwama and Nabweru “should be scrapped and new ones elected on a representative basis.” This report goes on to say that “the National Acacia Advisory Committee should, as a matter of extreme urgency, provide clear guidelines on roles and responsibilities between staff and steering committees.” Niane (p.10) notes that ELSA-supported research within school networking and Trade Point activities in Senegal has demonstrated the importance of using management committees to create partnerships that develop synergy among community representatives and donors. A key to the effectiveness of these committees is ensuring that they have real decision-making power about finances and human resources if they are expected to assume long-term “ownership” of ICT activities. This also suggests that flexibility to make the necessary adjustments in operations and management of ICT activities must be part of the overall management plans (Niane p. 13). Community members cannot be expected to have the required skills and as Niane points out (p. 11), training of committee members should be a priority. Therefore:

Local committees can be effective means to facilitate interactions with communities, but membership must clearly be **representative of the community, training opportunities must be provided to committee members, and the mandate and decision-making powers** of all members must be clear to all everyone involved.

Research in Senegal (Niane, p.12) suggests that there are considerable differences in participation in ICT activities based on gender and age. In the Trade Point project for example, women were poorly represented in management committees; whereas, in the environment-based projects, there was generally equal representation of men and women. In the Cyber-Jeunes project, in comparison, women “animateurs” are very well represented. In East Africa, similar variations are emerging in the research findings. In the SchoolNet projects, generally more boys than girls are involved and the boys tend to use the Internet more than girls. In Uganda, women have been found to make less use of telecentres when they are first introduced. Preliminary analysis suggests that this may be related to factors such as the training being provided at times that are not convenient for the women. However, in Uganda, it seems that the proportion of women is growing as the range of information resources grows to include more information about agriculture and microenterprises. Men tend to use services such as photocopying; women appear more interested in seeking new sources of information. Research at Makerere University also suggests that young women make more use of telephones and that women use video most often.

In terms of age differences, ELSA-funded research suggests it is youth (13–25 years old) who are the “early adopters” and are using ICTs at telecentres in the greatest numbers. This age bias in usage; however, is generally not reflected in the composition of local management committees (Niane, p. 12). Therefore:

Initially, **more males than females seem to use ICTs**; however, the reasons for any differences are not clear and the rate of usage by females appears to rise as sources of “new” information are incorporated into telecentre operations. Preliminary findings suggest that **women may be more open to using new sources of information.**

Given that youth are generally making greatest use of ICTs, and are important “early adopters,” it may be prudent to **increase the involvement of youth in local management committees.**

When ICT interventions are designed as research activities, some implementation will be required, but long-term support for facilities and equipment is not likely to be forthcoming. This should be clearly specified during initial discussions, and plans for longer-term support considered up front. In this regard:

When working in communities, **donors must be sure to be clear about their objectives and the limitations of their support.**

Integration of ICTs into African communities will require **a relatively high degree of investment in equipment and facilities.** Communities must understand that Acacia’s primary mandate is to support research, and because ICT activities will not be fully supported in the long-term, project design needs to include exploration of the “post-research phase” of the initiative.

## **Management**

**Management** of ICT-based activities **can be complex and difficult** in “frontier” situations and requires special attention during development and implementation. Researchers in both East Africa and Senegal (Niane p. 11) and Acacia staff suggested the need for skills in financial administration (including book-keeping skills); data collection to be able to gather information about users and their information needs; ability to use computers and Internet to meet information needs once identified; content development and creation and use of a mix of different media for information delivery; ability to solve technical problems related to ICTs and undertake routine maintenance; and knowledge of the local policy environment with regard to such things as payment of taxes and getting necessary licences for wireless technologies. Therefore:

**Greater investments in management skills** may be needed when planning ICT-based activities.

Telecentres are expected to **operate like semi-private activities and generate revenue while also meeting social needs.** This is a very difficult task in situations where the telecentre is just being established, and presents special challenges for operators. ELSA’s research to date suggests that:

If activities are expected to cover their costs, **plans for revenue generation should be considered from the start.**

To improve the visibility of the telecentre in the community and generate more revenue, the manager of the Nabweru telecentre has created a marketing brochure for the telecentre to explain the facilities that are available and advertise the training that is provided (introduction to computers, MS Word and WordPerfect, MS Excel, desktop publishing, MS Powerpoint, and access to the Internet).

Telecentre **operators must be enterprising, innovative, and creative** in marketing facilities and services (and have the support of the local management committee).

**Sensitization activities** designed to improve people's understanding of how ICTs can be used **should be on-going** and not limited to activities undertaken only during the initial installation of equipment.

ICT activities within schools are more often seen as “investments” rather than opportunities to generate revenue. However, the ways that computer facilities are managed within schools can affect usage. **Limited appreciation by school administrators** of how computers can be used for school administration and for teaching. In SchoolNet South Africa, one administrator and one teacher from each school was invited to participate in training programs. In the Cyber-Jeunes project, Niane (p.15) reports that this constraint was addressed by ensuring that administrative staff received a large proportion of the training provided on computers and the Internet (22 administrative staff and 49 other users received computer training, and 13 administrators and 13 other users received Internet training). The importance of including practical examples and demonstrations in any sensitization activities aimed at communities (Niane, p.13) would apply to training for school administrators as well. Concerns over theft (the secondary school visited in South Africa that is part of the SchoolNet project had just replaced equipment that had been stolen), can be translated into **restricted access to computers**. Acacia provides technical inputs, but does not participate in on-site management of the facilities within the schools. Therefore:

On-going efforts are required to **sensitize school principals** on the ways that computers can be used to enhance learning and school administration and to ensure that administrative practices do not unduly limit access and use of ICT facilities.

Findings from the ELSA-supported research with school networking in Uganda and experiences from the Cyber-Jeunes activities in Senegal have pointed to the feasibility of making greater use of **students to management computer facilities** in collaboration with teachers. Therefore:

Acacia might wish to support explorations of ways to involve students in the management of computer facilities in schools.

If ICT interventions are successful in attracting other donors to participate, experiences with SchoolNet South Africa, which has been successful in attracting additional donor funding of 13.5 million Rand, point out that administrative and management responsibilities grow and place greater demands on project staff. As Acacia works with other donors to expand implementation beyond an initial pilot stage:

It may be prudent to build in resources to cover a **full-time dedicated manager** as projects are expanded beyond the pilot stage.

## Information and Communication

Information delivery and effective communication are the keys to the success of ICT activities. Within Acacia, the **initial focus appears to have been on technology introduction** and solving the challenges this presents. There is a great deal to be done with regard to finding and installing stable and reliable technologies under difficult conditions in pilot installations.

Trade Point (Senegal) shows how technology can be used to expand access to market information that is locally valuable to potential users. This strategic approach introduces new technology to communicate a trusted source of information and provides a reason for people to learn and invest in the technology ... they can see an immediate financial return. In the Cyber-Jeunes project, the ICT intervention is blended with existing efforts to improve teaching related to health and the environment in “family life education clubs” in schools. This approach at introducing ICTs into the curriculum was called “para-academic” by the researchers involved. Niane (p.9) points out that understanding community needs for information is just as important as developing their capacity to use ICTs. Therefore:

ELSA research is documenting ways to **strengthen the link between technology and information delivery** so that ICT investments can play a role in improving people’s lives.

It is important to **understand the existing communication channels** in the communities so that ICTs can be introduced in ways that complement and reinforce these channels.

One of the main challenges for telecentres is to be able to **locate the required data and then repackaging that information in appropriate formats**. The researchers have found that the information that telecentre users most often seek is contact with family members; leads on possible occupations; scholarships that might be available; crop and planting information; information about possible markets; prices of inputs; information on health issues such as AIDS; and posting death and birth announcements. Business people are looking for funding or partnerships for their activities, new markets, or information on how to run a business. As well, the telecentres in Uganda have been asked to organize adult literacy classes. Telecentres are seeking to establish partnerships with local NGOs, government extension services, and rural health clinics to collaborate on the collection and distribution of information. Thus:

**Content and technology should continue to be developed in tandem.** The UNESCO program officer responsible for the telecentre in Nakaseke, suggested that if ICTs are to be used for development, then 70% of the focus should be on content development and that 30% should be on technical aspects.

**Partnerships** between telecentres and local organizations such as NGOs, government extension services, and rural health clinics should be further improved to enhance access to locally relevant information and promote the use of the telecentres.

Within the school networking projects, relevant information to supplement teaching has been most often found in science and mathematics according to the research presented at the SchoolNet workshop held in Johannesburg in January 2001. **Locally relevant content is important to sustain use**, and the potential to address this shortcoming is reflected in the

creation of web sites by five of the seven schools where a computer has been introduced in the Cyber-Jeunes project. The availability of Internet access has also allowed two of schools to establish links with overseas schools to share information and resources.

In terms of effective communication, research is pointing out that to be successful ICTs require “outreach” programs that use a mix of other more traditional means of communication to extend their reach and effectiveness. The researchers suggested that community radio linked to telecentres might prove to be a promising way to both determine information needs and deliver information to communities. The UNESCO program officer for the Nakaseke Telecentre cited work done in Sri Lanka that has been successful in linking Internet searches for information with community talk radio. Therefore,

A **mix of media types** is likely to be required to reach different sectors of the target population and to reinforce messages delivered through other methods.

### **Training**

Given the pioneering nature of ICT activities supported by Acacia, training has been directed at creating basic awareness and teaching how to operate computers and do basic operations such as word processing, using email, and accessing the Internet. The validity of Acacia’s focus on **schools as an important entry for ICT training** is illustrated in the age distributions of the populations in the countries involved in SchoolNet. In Mozambique, 46% of the population is under the age of 15, and in Senegal 58% are younger than 20 years old.

An interesting finding coming from the Cyber-Jeunes project in Senegal is the **effectiveness of students as trainers**. This is supported by ELSA-supported research in Uganda which suggests that power relationships are changing as teachers in fact are now learning from students. Efforts are now being made in connection with projects in both countries to promote joint management of computer facilities by students and teachers. A preliminary proposal was made at the SchoolNet workshop to host a meeting that would bring together Africa youth who have taken on such leadership roles to learn from each other. Thus Acacia activities suggest that:

**Students may be an effective resource** and focal point for ICT training in schools and might be good partners for teachers in the management of computer facilities.

SchoolNet research is also finding out that often **principals have little experience with computers** either for administration or teaching and thus lack the vision needed to see how computers might change education. Several participants in SchoolNet workshop also noted that teachers and principals tend to be very conservative in their approach and will require a long time to change their views and methods. Because of the need to introduce training through teachers, they have benefited most from training to date. For example, in Cyber-Jeunes activities, Niane (p. 15) reports that in the seven schools studied, 59% of the teachers received computer training and 50% received Internet training. In comparison, 14% of students received some computer training and a little over 2% received Internet training. This suggests the following is being learned:

Efforts will need to continue to **sensitize administrators** on how computers can improve educational results and help with the administration of school activities. To ensure that training can be expanded to maximize the benefits to students, there is a need to **train teachers** on how best to integrate computers into classroom teaching and on how to use a limited number of computers for group training exercises.

Experience with training in Acacia-supported projects is demonstrating that:

Training is most effective when designed as a progression of steps or phases that build on each other; is supported by hands-on practice sessions and followed by access to the required hardware and connectivity; is presented in the language in which the trainees are most comfortable; and is built around exercises that create local content and information (for example, create advertising brochures or posters for local businesses, obtain information about AIDS, or create a webpage for the telecentre of some other local activity).

**Changes in national policies** can have an important bearing on ICTs in schools. For example, in Uganda, the Ministry of Education has recently added computer training to the curriculum for secondary schools. This means that the subject is now “examinable” and schools expect that they will be able to hire an additional teacher specifically for computer-related studies. In Senegal, the Cyber-Jeunes project has been careful to ensure that all extracurricular materials have been developed in full collaboration with the Ministry of Education. However, even in Senegal where many advances in ICTs introduction and use have been made, there is still no national ICT policy (Niane, p. 28). Although in Mozambique there is currently no direct policy support for ICTs in education, this may change as a national ICT policy is under development by a committee chaired by the Prime Minister. At the same time, findings from research can influence government policy. Thus, it is important for **projects to establish links to policymakers** to be able to influence future policy decisions. In this regard, one Acacia program officer suggested that Acacia might consider working with administrators of teacher training colleges to incorporate computer skills training into the curricula.

## Technology

Availability of technology and access are not the same. The most common **reasons why facilities are not used** is that people lack training, costs are high, level of education and literacy are low, distance that must be travelled, and reliability of service provision. Other factors can also limit access. For example, in Nabweru, it was found that some people were reluctant to come to the telecentre because it was next to the police station and the court. The same telecentre was also not located on the public taxi route so it was in fact cheaper to go by taxi to Kampala to use a telecentre than to go to the local telecentre. The principal of the secondary school visited during the SchoolNet workshop summed this up nicely when he said that **facilities are “only alive if people visit.”**

The provision of technology is the backbone of ICT interventions. People and their information needs must be at the heart of the activity, but the **technology is enabling** because it offers the potential of rapid and affordable access to information that was previously inaccessible. ELSA-supported research suggests **technical obstacles are often difficult to overcome** in spite of the

fact that surveys of the technical infrastructure were conducted at the baseline stage. As reported by the Acacia program officer, an assessment of the technical environment was done for the telecentres in both Nabweru and Buwama at the baseline survey stage. However, despite this thorough technical survey and implementation of one of the proposed technical options, technical difficulties were still experienced and could not adequately be improved by the service provider. As well, responding to break-down can pose problems. As an example, during a field visit to the Nabweru telecentre, the connection to the ISP in Kampala was successful, but the email program would not run because an “out of memory” message. The telecentre operator was unable to solve the problem and needed to wait for someone to come from Kampala to fix the problem

**Research into innovative approaches** will also be needed to address special circumstances in the short-term. One example of such an approach is the use of mobile self-contained telecommunications vans in Zimbabwe and Namibia. Although the recurring maintenance and operation costs are high, they are one option for introducing computers to remote rural schools. Acacia’s research has also demonstrated the **range in the scale of technical options** that may be effective in different settings. In the cyber-jeune life-skills clubs, single computers have brought new opportunities for learning; whereas, in other settings (schools and telecentres), networks of larger numbers of computers have been used to advantage. The research to date suggests that:

There is a need for research to consolidate information on **types of technical options** that work under various situations within rural settings. These options might include stable technology platforms and software, standard equipment configurations that are work well in remote locations, and the use of networking technologies that reduce the complexity of the individual workstations.

Provision of on-going **technical support continues to be a challenge** and can result in considerable gaps in service provision. One method being tried at the telecentres in Uganda is to use local secondary school graduates to provide technical support in return for Internet access. Another option might be to provide technical support through a central support facility that has remote access to computer installations.

Acacia program staff suggested that their experiences to date suggest that an important challenge for Acacia is to investigate the types of **shared access models** that work under various situations. One model that was suggested was a “hubsite” that could bring ICTs not simply to the community centre or school but to surrounding organizations; another was to explore the concept of franchising telecentre operations. A visit to a hubsite telecentre outside Johannesburg demonstrated how centralized technology (in this case donated by Nortel Networks) can be used to provide access for a range of NGOs that use the same community centre for the base of their operations.

## **Sustainability**

This discussion of sustainability focusses on telecentres. At the initial stages of introduction, ICTs need to be seen in the light of **investments for “public good.”** Sensitization, training, and education are not sustainable activities; however, they are essential investments that must be made to pave the way for other interventions and activities. Researchers involved with telecentres noted that their studies are showing that it is important for **sustainability to be**

**addressed at the initial stages of discussions** about how to introduce ICTs into communities. Otherwise, communities do not assume “ownership” of the telecentre and continue to see projects as donor-driven external interventions. As an example, the program officer responsible for the telecentre in Buwama was recently asked by the head of the local steering committee what will happen when the money runs out next year. Although there is awareness that funding is not continuing, plans for continuation of the telecentre have not been made. Research to date suggests that:

The initial efforts in bring ICTs to rural communities should be seen as **investments** that are essential to further commercial development.

All parties involved should be clear from the outset about the mandate, extent, and time limits that may be placed on external donor support.

If financial sustainability is an objective, then telecentre managers will require training and encouragement to become more entrepreneurial, to look for market opportunities, to enter into revenue-generating partnerships, and to explore ways to actively involve various sectors of the community.

Donors have an obligation to help communities plans for continuation of activities after the research phase ends.

Ownership by the community is important, but it can be **difficult to define what is meant by ownership** when one telecentre is servicing 5,000 people. The community may be said to “own” the telecentre, but what does this mean? The telecentre researcher conducting telecentre research in Uganda reported that when he asks questions related to ownership in the community he gets very mixed responses. The people in the community know the facility exists for them, but are not clear about who “owns” the facility. Someone or some entity in the community must be seen as the central player. The research to date suggests that:

Responsibility for making decisions about day-to-day operations, about how money is spent, and how revenues are used are important to developing community ownership of facilities.

To focus community efforts it appears that there needs to be an “agent” or organization willing to play a central role.

Under current operating conditions, telecentres may not be sustainable. For example, at the telecentre in Nabweru, the salaries of the telecentre manager and the information officer alone are about US\$450,000 per month (excluding all costs for equipment, connection time, phone lines, electricity and the building itself) and monthly revenue to date is between US\$350,000 and 400,000. However, it is important that they become sustainable in the long-term. The **demand now exists in rural communities for some ICT** (for example, photocopying services and telephones). Cellular phones are a common site in rural areas of Africa, and the researcher involved in the telecentre research in Uganda reported seeing people with cellular phones even in areas outside cellular coverage. They either use these phones when they visit towns or in some cases go to rural locations where geography allows calls to be made in locations normally beyond the network. Entrepreneurs may be expected to introduce such technologies in rural areas (in the case of cellular phones in Uganda the licencing agreement requires development of services in remote areas).



In Buwama, the cost of photocopying services have had to be reduced three times in response to competition. **There are now competitors to all three Acacia-funded telecentres.** These are mostly “business bureaus” offering computers for word processing and photocopying services (they are not telecentres offering the same range of services). The project officer at the Acacia Uganda National Secretariat thought that there were now two competitors in Buwama, three or four in Nabweru, and three in Nakaseke. These findings suggest:

Acacia’s introduction of telecentres has created a demand in rural areas for some ICTs. Local startups have the flexibility to offer only those services that are in demand in the community (and therefore profitable) and by focussing only on these services they appear to be financially sustainable.

Telecentre operations might be more sustainable if turned over to, or developed in collaboration with, local entrepreneurs (perhaps under conditions that ensure access at disadvantaged groups).

It may be more prudent to work with “early adopters” of technology if sustainability is to be achieved ... otherwise the telecentre may not survive long enough to do other things for the community. These early adopter may prove to be key entry points for altering community perceptions and building local support. However, finding a balance between profit and public good will remain a delicate balance in any operation that is seeking to be financially sustainable.

Because commercial telecentres focus only on what is profitable they are unlikely to make the investments necessary to make the investments necessary to introduce Internet access or to develop content that is locally relevant. **Partnerships will continue to be important** among donors and among local organizations such as NGOs, government extension services, and rural health centres to establish more permanent interventions and to the development of mechanisms to create, update, and revise content. Therefore:

ICT facilities appear more likely to be sustainable if they are able to attract a range of partners to cover the costs of introduction as well as to deliver the content needed to address community needs.

Undue emphasis on sustainability may create a danger that experimentation and research will be limited to those locations where the greatest market potential exists and that innovative methods of information delivery, such as the use of community radio, might be ignored because they are not “profitable.”

## Appendix 1: People Interviewed

**Adera, Edith**, Senior Program Officer, International Development Research Centre, Regional Office for Eastern and Southern Africa, Liaison House, State House Avenue, Box 62084, Nairobi, Kenya; tel: 254-2-713160/1; fax: 254-2-711063; email: [eadera@idrc.or.ke](mailto:eadera@idrc.or.ke)

**Alzouma, Gado**, Program Officer (ELSA Coordinator), Acacia, International Development Research Centre, Regional Office for West and Central Africa, B. P. 11007, CD Annexe, Dakar, Senegal, tel: 221-8-640-000; fax: 221-8-253-255; email: [galzouma@idrc.org.sn](mailto:galzouma@idrc.org.sn)

**Asingwire, Narathius**, Acting Head, Department of Social Work and Social Administration, Makerere University, PO Box 7062, Kampala, Uganda, tel: 256-41-534114; 075/690594; email: [swsa@uol.co.ug](mailto:swsa@uol.co.ug)

**Etta-Akinaina, Florence**, Evaluation Associate, International Development Research Centre, Regional Office for Eastern and Southern Africa, Liaison House, State House Avenue, Box 62084, Nairobi, Kenya; tel: 254-2-713160/1; fax: 254-2-711063; email: [fetta@idrc.or.ke](mailto:fetta@idrc.or.ke)

**Holcroft, Edward**, Senior Evaluation Researcher, Acacia, International Development Research Centre, Regional Office for Southern Africa, P.O. Box 477, Wits 2050, Johannesburg, South Africa, tel: 27-11-403-3952; fax: 27-11-403-1417; email: [eholcroft@idrc.org.za](mailto:eholcroft@idrc.org.za)

**Isaacs, Shafika**, Senior Program Officer, Acacia, International Development Research Centre, Regional Office for Southern Africa, P.O. Box 477, Wits 2050, Johannesburg, South Africa, tel: 27-11-403-3952; fax: 27-11-403-1417; email: [sisaacs@idrc.org.za](mailto:sisaacs@idrc.org.za)

**Jacob, Christel**, Evaluation Research Associate, Acacia, International Development Research Centre, Regional Office for Southern Africa, P.O. Box 477, Wits 2050, Johannesburg, South Africa, tel: 27-11-403-3952; fax: 27-11-403-1417; email: [cjacob@idrc.org.za](mailto:cjacob@idrc.org.za)

**Katahoire, Anne**, Senior Lecturer, Makerere Institute of Adult Continuing Education, Kampala, Uganda, tel: 256-41-534803; email: [mkbolts@imul.com](mailto:mkbolts@imul.com); [annekatahoire@yahoo.com](mailto:annekatahoire@yahoo.com)

**Kibombo, Richard**, Statistician, Makerere Institute of Social Research, PO Box 16022, Kampala, Uganda, tel: 256-41-532830/8, 554582; fax: 256-41-532821; mobile: 077-428109; email: [misrlib@imul.com](mailto:misrlib@imul.com)

**Kotterink, Bas**, Senior Program Officer, Acacia, International Development Research Centre, Regional Office for Southern Africa, P.O. Box 477, Wits 2050, Johannesburg, South Africa, tel: 27-11-403-3952; fax: 27-11-403-1417; email: [bkotterink@idrc.org.za](mailto:bkotterink@idrc.org.za)

**Madaya, Norah**, Project Officer, Acacia Uganda National Secretariat, Uganda House, 13 Floor, PO Box 6884, Kampala, Uganda; tel: 256-41-348118; mobile: 077-425-512; fax: 256-41-234579; email: [ugacacia@infocom.co.ug](mailto:ugacacia@infocom.co.ug)

**Mayanja, Meddie**, Project Officer, UNESCO, Nakaseke Telecentre, PO Box 4962, Kampala, Uganda, tel: 256-41-259713; fax: 256-41-258405; email: [ugunesco@swiftuganda.com](mailto:ugunesco@swiftuganda.com)

**Nyiira, Zevubabel M.**, Executive Secretary, Uganda National Council for Science and Technology, Uganda House, 11 Floor, PO Box 6884, Kampala, Uganda; tel: 256-41-250499; fax: 256-41-2345579; email: [uncst@starcom.co.ug](mailto:uncst@starcom.co.ug)

**Thioune, Ramata**, Evaluation Research Associate, Acacia, International Development Research Centre, Regional Office for West and Central Africa, B. P. 11007, CD Annexe, Dakar, Senegal, tel: 221-8-640-000; fax: 221-8-253-255; email: [rthioune@idrc.org.sn](mailto:rthioune@idrc.org.sn)

## Appendix 2: Reference Documents

- Agongo, Aquinata. 2000. A report on the pan-African study on information and communication technologies (ICTs) and community development. Acacia - ELSA, IDRC, Nairobi, Kenya.
- Burton, Simon. Terms of reference. Evaluation of the Msunduzi community network (phase 1). School of Humana nd Social Studies, University of Natal, South Africa.
- Etta, F.E. 2000. Evaluation and learning systems in Acacia (ELSA): revised concept paper for the African telecentre study. Acacia - ELSA, IDRC, Nairobi, Kenya.
- Fuchs, Richard. 1998. Little engines that did: case histories from the global telecentre movement. FutureWorks Inc. Newfoundland, Canada.
- Fuchs, Richard. 1997. If you have a lemon, make lemonade: a guide to the start-up of the African multipurpose community telecentre pilot projects. FutureWorks Inc. Newfoundland, Canada.
- Holcroft, Edward and Isaacs, Shafika. 2000. Concept paper: an evaluation of Acacia-supported school networking projects in sub-Saharan Africa. Acacia - ELSA, IDRC, Johannesburg, South Africa.
- Isaacs, Shafika. 1999. Report on school networking projects supported by Acacia. IDRC, Johannesburg, South Africa.
- Katahoire, Anne. 2001. An evaluation of Acacia supported school networking projects in sub-Saharan Africa: a case study of a school networking program in Uganda (draft report). Makerere Institute of Adult Continuing Education, Kampala, Uganda.
- Katia, Salome. 2000. The data collection exercise of the IDRC sponsored FASI project on information and communication technologies (ICTs) and community development carried out in Makueni District, Kenya (December 20–21, 2000). Acacia - ELSA, IDRC, Nairobi, Kenya.
- Kayabwe, Samuel K. and Kibombo, Richard. 1999. Buwama and Nabweru multipurpose community telecentres: a baseline survey (a draft report). Makerere Institute of Social Research, Kampala, Uganda.
- Kayabwe, Samuel K. and Kibombo, Richard. 2000. Dissemination of baseline findings (a draft feedback report). Makerere Institute of Social Research, Kampala, Uganda.
- Madaya, Norah. Acacia national strategy for Uganda: Lessons and experience from the implementation of telecentres in rural Uganda. Uganda National Council for Science and Technology, Kampala, Uganda.

- Makunja, Charles. 2001. Report of the document analysis for the study on lessons learned from ICTs and community development. Family Support Institute, Nairobi, Kenya.
- Mayandja, Meddie. 2000. Access and empowerment: experiences and lessons from the multipurpose community telecentres (MCT) in Uganda. Nakaseke MCT, Uganda National Commission for UNESCO, Kampala, Uganda.
- Nabweru Community Multipurpose Telecentre. 2001. Empowering Communities through the use of information technology in Uganda (promotional brochure). Nabweru Community Multipurpose Telecentre, Nabweru Subcounty Headquarters, Kasangati, Uganda.
- Niane, Boubacar, 2001, Principaux enseignements tirés des évaluations relatives à l'initiative Acacia. Acacia - ELSA, IDRC, Dakar, Senegal.
- National Acacia Advisory Committee. 2000. Acacia in Uganda. (newsletter) Vol. 1 (1), June 2000. Kampala, Uganda.
- Pact Institute. 1999. Timbuktu multipurpose telecentre baseline survey: community information and communications profile. Pact Institute, Washington, DC, USA.
- Pact Institute. 1999. Nakaseke multipurpose telecentre baseline survey: an overview of training and methodology techniques and community information and communications profile. Pact Institute, Washington, DC, USA
- Thioune, Ramata. 2000. Introduction des technologies de information et de la communication dans la gestion et la rehabilitation des terroirs villageois. Acacia - ELSA, IDRC, Dakar, Senegal.

## Appendix 3: Interview Guide

I have been asked to record what has been learned from the on-going ELSA evaluations and gather some examples from this work that illustrate the lessons that have been learned. To do this, I have prepared an interview guide that starts with some general questions and then proceeds to cover some more specific issues. I am not evaluating results or assessing the ongoing evaluations in any way.

Do you have any questions before we start?

### **Background Information** (obtain business card if available)

Name:

Job Title:

Organization:

Principle responsibility with regard to Acacia/ELSA

Email address:

Postal address:

Telephone number (with country and area codes):

### **Overall Impressions**

1. From your experience with Acacia, what do you think are the most important things that have been learned about using ICTs to further development?
2. How should these lessons change how Acacia plans and implements future project activities?
3. What are the most important areas that Acacia still needs to gather information about to maximize its learning? Why are these important?
4. What are the strengths and weaknesses of the Acacia activities that were evaluated?  
Strengths:  
Weaknesses:

### **Project Assumptions**

5. What were the most important assumptions that Acacia made about how ICTs could contribute to development?
6. Based on what has been learned from the evaluation work, how valid were these assumptions?

## **Design and Implementation**

7. What can Acacia learn from the evaluation work about how ICT activities should be designed?
8. What can Acacia learn from the evaluation work about how ICT activities should be implemented?

## **Training**

9. What should Acacia learn from the evaluation work about training?
10. What sort of training is most useful? Why?
11. What skills and capacities have been developed, or need to be developed?
12. Who has benefited most from the training?

## **Management**

13. What can Acacia learn from the evaluation work about management of ICT-based activities?
14. What factors are most important to successful management of ICT activities? Please rate these factors in terms of their importance.

## **Creating Awareness and Community Involvement**

15. What has been learned from the evaluation work about creating awareness and developing community involvement?  
Creating Awareness:  
Community Involvement:
16. What factors are most important for sustaining community involvement?
17. How has community participation affected the way that the Acacia-supported activities have evolved?
18. How have Acacia-supported activities affected the community?
19. What factors are most effective for encouraging local resource people, leaders, and operators to remain actively involved with Acacia's ICT activities?
20. Are there differences in the level of involvement of various sectors of the target population? What are the reasons for any differences that might exist? [If not mentioned, ask about gender differences.]

## **Information Needs of Users**

21. What has been learned from the evaluation work about the types of information and services that user want and need?
22. What methods are most effective in delivering this information to users?
23. Did the evaluations find any evidence to suggest that users' information needs have been met? (e.g., changes in the types of communication, increased use of specific services).
24. Who are the main users of the ICTs? Has the type of user changed since the start of the project?
25. Are ICT users now asking for different kinds of information or services?  
Yes          No          If yes, what are they?

## **Access**

26. What has Acacia learned about community access to ICTs?
27. What has been learned from the evaluation work about the factors in the community that encourage access to information and services?
28. What has been learned from the evaluation work about the factors in the community that discourage access to information and services?
29. How does physical infrastructure or location affect access?
30. Are there technical difficulties that still need to be overcome? How can this be done?

## **Impact/Results**

31. What has Acacia learned about the impact or results that can be attributed to its support for ICTs?
32. What has the evaluation work indicated are some of the positive outcomes from such ICT interventions? (e.g., what has worked well, what benefits have been derived by the community).
33. Did the evaluation work indicate that new ideas or opportunities were created in the community?  
Yes          No          If yes, what are some examples?
34. Did the evaluation work indicate that there were changes in the social relationships or economic interactions within or between communities?



35. Have there been benefits of the ICT interventions at a broader, or even national, level?

36. Have any private-sector activities resulted from the activities?

### **Unexpected Impacts/Results**

37. Did the evaluation find any unexpected outcomes?

Yes          No          If yes, what were they?

38. Were there any negative results or outcomes?

Yes          No          If yes, what were they?

39. How should the activities change or evolve to reduce the negative and increase the positive outcomes?

### **Policy**

40. What was learned from the evaluation work about the affect of policy on ICT project activities?

41. Are there national policies that hinder or favour the outcomes of ICT projects?

Yes          No          If yes, what are they?

42. Are there local policies that hinder or favour ICT projects?

Yes          No          If yes, what are they?

### **Sustainability**

43. What did you learn from the evaluation about sustainability?

44. How can ICT activities be made financially and socially sustainable in the longer term?

45. Can financial and social sustainability be achieved under the current conditions?

Yes          No          If no, what has to change?

46. Can market forces be expected to take ICTs to rural areas?

Yes          No          Why?

47. Have sustainability and ownership concepts been “internalized” into project activities?

Yes          No          If no, what has to change?

48. How should pricing for services be approached?

### **Future**

49. What do you think ICT users will want to have over the next 3–5 years?
50. What lessons should guide externally funded ICT initiatives in Africa?
51. How do you think the learning that has been generated from the evaluations can best be applied so that it directly contributes to future activities?
52. Do you have anything else to add?

Thank you.