INTRODUCTION

The 1996 Information Society and Development (ISAD) conference in South Africa introduced the African development community to the potential of information and communication technologies (ICTs) and served as a launching pad for the African Information Society Initiative (AISI), a...
framework for using ICTs in Africa to accelerate economic and social development).

Acacia represented Canada's contribution to the AISI. At the time, considerable skepticism prevailed about the development potential of ICTs. Few donor and development agencies were investing in ICTs for development, and even private-sector interest was limited. Few African countries were connected to the Internet, and new policies on ICTs and liberalisation of the telecommunications sector had only begun to surface in a few countries. That was the context in which the International Development Research Council launched the Acacia I program in 1997. It had three goals:

- **Goal #1**: To demonstrate that the benefits of ICTs can reach disadvantaged sub-Saharan communities, and the women and youth within these communities, and can amplify their inherent innovativeness and enterprise to help these communities solve their development problems.
- **Goal #2**: To learn from Acacia's community-based research and experimentation and to disseminate this knowledge widely.
- **Goal #3**: To build international momentum and buy-in [in] order to continue expansion of access to ICTs by rural and disadvantaged groups.

### ACACIA I: The First Generation

In its first four years, Acacia I invested $22.2 million (CAD), mostly in three areas of action: national (66.85%), pan-African (19.40%) and cross-cutting and evaluation projects (11.36%). The first-generation Acacia program focused in particular on four "strategy" countries - Mozambique (20% of the total national allocation of $14,881,976), Uganda (21.5%), South Africa (27.0%) and Senegal (30.0%). National Acacia Advisory Committees (NAACs) were established in these countries to help define the lessons being learned from the program and to make sure that decision-making was rooted in local realities. The Acacia program included social investments in pilot multi-purpose community telecentres, school networking activities and accelerated ICT policy development initiatives in each Acacia country, as well as considerable investments in evaluation and related research.

### ACACIA I: LESSONS LEARNED

During the first phase of Acacia, lessons were learned in three areas, relating specifically to: (i) the national programming approach; (ii) project type and programming; and (iii) the Evaluation and Learning System for Acacia (ELSA).

**ELSA** was seen as the most innovative and powerful aspect of Acacia and as a means to understand and mainstream lessons learned from demonstration projects. ELSA was designed to help shift evaluation practices away from policing towards wider participation and greater sharing and learning. Three evaluation studies were undertaken in 2000 in the four strategy countries: (i) School Networking in Africa; (ii) Telecentres; and (iii) ICTs in Community Development in Africa. The findings constitute an important source of primary data on ICT projects in Africa.

**NAACs** Through the National Acacia Advisory Committees, another signature approach, Acacia achieved high-level visibility within national ICT discourses that would have been impossible through conventional research methods. The NAACs were used as national champions, individually and collectively, and succeeded in placing ICT issues...
on the agenda in strategy countries (possibly with the exception of South Africa).

10 Lessons

#1: **Policy is key.** ICT policy development requires positive support at the highest level of political leadership, and the creation of policy frameworks - especially as regards infrastructure and rural connectivity - is key to success.

#2: **Management of community ICT projects is complex.** Administrative, technical and managerial expertise is rare in rural settings, but community commitment is high. Though development projects operating with a business mandate are new, political, government and community leaders can usefully act as their champions.

#3: **Partnerships are important but elusive.** Private-public partnerships are a necessary condition for the continued existence of rural ICT projects, but such partnerships are elusive and transaction-intensive.

#4: **Infrastructure and technologies exist for difficult environments.** Despite the heavy costs, rural connectivity is feasible with the range of new technical and technological options that are now available. ICT can be successfully introduced in poor environments and rural areas, even with the paucity of expertise and low incomes.

#5: **Success depends on participatory approaches.** The introduction of ICTs is an ongoing process, and participation is critical. Community members need to be involved in the research, packaging and delivery of information.

#7: **ICTs are transformational.** Though computers are not new to Africa, their use is more transformational now than ever before.

#8: **ICTs are multi-faceted.** ICTs are now being used for a variety of purposes, such as education, business, crafts and agriculture and for personal ends.

#9: **Multiple-use facilities are needed.** Infrastructure is absent in rural areas, and low incomes limit personal ownership of computers. New sustainability models need to be developed.

#10: **Traditional disparities are growing.** Though more people are using ICTs, many are still excluded due to gender, age, illiteracy, poverty and location. Programming for gender equity, for example, is particularly difficult with technological projects, which have a long history of gender bias.

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**Africa, ICTs and the New Millennium**

The ICT environment in Africa has changed sufficiently to warrant re-conceptualization of the initiative and introduction of Acacia II. Notably, many new technologies have emerged, especially in the area of wireless communications. At the same time, telephone and Internet access in Africa has increased, largely due to private-sector intervention. All 53 African countries are now online, and there is at least one private-sector telecommunications provider in every country. Many monopolistic policy regimes have been liberalised to create more market competition, better access and lower prices. There have also been renewed efforts, both global and regional, to bridge the digital divide - notably, the New Africa Initiative, which calls for a new partnership between Africa and the international...
community in order to address the continent's development problems. Awareness of the relationship between ICTs and development has grown.

Africa's ability to participate in and enhance its international competitiveness in the new global economy, and hence make progress in poverty reduction, depends in large part on its ability to use and adapt new information and technological innovations. The poverty that ICTs address goes far beyond the material impoverishment that preoccupies so much of the international development discussion. However, people's ability to know, to learn, to understand alternatives and to communicate them represents an asset that, in the early stages at least, has no direct relationship to GDP per capita. Also, the "map" of how ICTs actually affect the circumstances of poverty suggest that the road from first-use of ICTs to changed economic circumstance at the individual and community level takes many routes. It also takes much longer than many expect.1

There have been some improvements in digital access in sub-Saharan Africa in the past few years. Foreign enterprises are now investing heavily in new wireless and cellular systems. A new continent-wide Internet Service Provider (ISP) has been formed, and Africa Online now operates widely. In 1998, sub-Saharan Africa had 0.1% of its population with access to the Internet; by 2000, this number had increased to 0.4%, compared to 26.3% in the USA.2 Even with these improvements, Africa - with 12.8% of the world's population - has less than 2% of its telephones and even fewer personal computers and Internet users. Low per capita incomes and fractional rates of teledensity represent a major challenge to the integration of ICTs into everyday life.

A lack of land lines means that the African Information Revolution will be a wireless revolution. Also, with generally low per capita incomes, common-use facilities are likely to prevail instead of ICTs for personal use. And, finally, the development of the Internet in Africa will require both public and private investment. Strategic partnerships between governments (which set policy and create investment opportunities) and the private sector (which responds to investment opportunities) is key. However, the civil society must also play its part in ensuring that resources are directed to marginal communities and that broad-based awareness and skills are built so that technologies can be widely appropriated. In many developing countries, the training of both public- and private-sector people to support information industry development has proven successful.

Most people's first interaction with ICTs, in Africa or elsewhere, is with a computer that is not linked to a network. Experience relating to most development cases suggests that people learn first to use a computer and related infrastructure, then begin to use the new information in their organisational lives, and then migrate to using networks of people and information. Thus, when the Internet does arrive, there is already a broad base of skills and local content to be transmitted.

In Africa, social investments are needed to for the application of ICTs in under-served regions and communities that principally serve poor people. At the same time, however, applied research assistance is also required at the "front of the market" to allow for the formulation of technologies and policies to favour a truly African digital future.

In conclusion, Africa requires technologies that are low-cost and high-volume. More importantly, the research and development that leads to "disruptive technologies - those that transform how prevailing technologies are diffused throughout a society and market3 - needs to occur with the active participation of African institutions and researchers.

THE PURPOSE OF ACACIA II

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THE VISION

Africa will actively contribute to and benefit from the global knowledge economy, and ICTs will appear on the policy agenda of all African countries as a means to raise and improve living standards for all (including rural as well as urban dwellers, women, men, children, youth and the disabled populations).

THE MISSION

- Continued application and related research endeavours of ICTs directly in communities and circumstances of poverty in Africa.
- Continued support to applied research that fosters pro-poor ICT-based policies within the original Acacia country partners, with gradual expansion of these activities into regional pilot programming in Southern, West, East and North Africa.
- Fostering of ICT applied research in appropriate technologies and related policy formations that favour the development of cost-accessible and functionally relevant technical solutions within the African context.

OBJECTIVES

- To enhance understanding and knowledge of the innovative, transformative or dysfunctional effects of ICTs in poverty reduction and human development in Africa.
- To improve African countries' capacities to formulate and implement national ICT policies that promote equitable access to ICTs and information for socio-economic development.
- To contribute to research in appropriate ICTs that support development and adoption of affordable and functionally relevant technical solutions for Africa.
- To support research that increases African content on ICTs through software development for effective application of ICTs for development.
- To learn from Acacia's community-based research and experimentation and to disseminate this knowledge widely.

PROGRAMMING

PROGRAMMING FRAMEWORK

**ICT Policy Research** Acacia will support applied research that fosters pro-poor policies and promotes equitable access to ICTs and information. It will strive to link research results to ICT policy and policy-making. It will give priority to policy research networks at the national and regional level that are working to apply ICTs to development.

**Technology Research and Development** Acacia will support research into practical models for affordable and functionally relevant technical solutions. These models will relate to under-served communities and will aim to meet their basic needs in terms of health, education, employment and
sustainable economic exploitation of the environment.

**Knowledge generation for enhanced ICT appropriation** Acacia will increase African content in ICTs by supporting research into the development of Internet tools that focus on information pertinent to the South. Support will encompass "old" technologies, such as CD-ROMs, videos, community radio, popular theatre, etc., when these are links in an information chain that introduces "new" technologies to marginalised populations.

**PROGRAMMING APPROACH**

Acacia will work with African institutions and Africans to achieve its stated goals, and it will take a phased approach to implementation, as follows:

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<th>Year</th>
<th>Activity</th>
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<td>2001-2002</td>
<td>Transition and dissemination</td>
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<tr>
<td>2002-2004</td>
<td>Consolidation and stabilisation of new (Phase II) focus</td>
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<tr>
<td>2004-2005</td>
<td>Evaluation, publication and dissemination of Phase II results</td>
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Acacia II regional programming will operate in the following 14 countries (compared to four in Acacia I):

- **East Africa**: Tanzania, Kenya, Uganda and Rwanda
- **West Africa**: Benin, Ghana and Senegal
- **Southern Africa**: Angola, Namibia and Mozambique and South Africa
- **North Africa**: Egypt, Tunisia and Morocco

**Research Focus and Themes**

**DIRECTION**

**Poverty reduction and people development**

Economic and social indicators are increasingly bleak in Africa, and major efforts must be made to reverse the continent's economic marginalisation. Acacia II is founded on the idea that, if the transformational power of information and communication technologies can be brought to bear, the continent can participate in the Information Economy. To that end, Acacia II focuses on mainly on "people," rather than on technical connectivity alone.

**VEHICLES**

Partnerships and networks
Partnerships and networks are vehicles for achieving poverty reduction through people development. Acacia II will engage in inter-agency, public-private and North-South partnerships. It will work with regional post-secondary institutions, early adopters of technologies and partner institutions to develop the sustainable research capacity.

OUTCOMES

Social-economic opportunities and learning and development
Acacia II will work with partners to identify new information-based social and economic opportunities for people (especially women), communities, nations and the region. As well, opportunities offered by ICT-induced changes are expected to open up new avenues for study and research. Acacia II will also continue to stimulate learning for a broad spectrum of learners in order to guarantee the development of people, projects, ideas, products and technologies in the service of the continent.

PROGRAM IMPLEMENTATION

Acacia I was organised as a pilot and semi-autonomous program. Acacia II will function more as an integrated program, maintaining close links with similar IDRC initiatives, such as PAN Americas, PAN Asia and Bellanet. These and Acacia have adopted common research themes to enhance learning and reinforce programming.

OPERATIONAL DIRECTIONS

1. IDRC has already approved a work plan and financial program for 2001-2002.

2. Guideposts will be established to ensure administrative and operational efficiency (e.g., clarity of programming, roles, responsibilities and reporting mechanisms, transparency, accountability and team cohesion).

PROGRAM TRANSITIONS

Telecentres
In every case where Acacia has supported telecentre establishments, resources will be allocated to support the development of "sustainability" plans to support either the continued operation "hand-off" to a local institution or final closure and withdrawal of investment. Acacia II programming will include systematic measures to consolidate what has been learned. It will also include work with local partners to place the telecentres on a sound and sustainable "business" basis.

School Networking
Acacia's role in introducing ICTs into educational institutions and in school networking has been extensive, including a close association with World Links for Development (part of the World Bank Institute) on its school networking activities in Uganda and Senegal. In the early phases of Acacia II, these activities will be integrated for ongoing investments. Mozambique, on the other hand, has no clear and identifiable continuing program partner. Acacia will therefore work closely with the Mozambican government to support and seek partners for the implementation of its new development strategy, including those elements that relate to school networking. Generally, Acacia II will shift focus from a pioneering role in establishing schoolnet institutions (including institutional support) towards stronger support of research, learning and knowledge generation. This phased withdrawal entails, among other things, the development of sustainability plans for local schoolnet projects and SchoolNet Africa.
NAACs
The National Acacia Advisory Committees constitute one of the channels through which Acacia influenced the development of ICT policies in each of the four "strategy" countries in Phase I. Acacia II will continue to support the NAACs in the immediate term to help them evolve into more autonomous think-tank formations that will provide support, focus or direction for ICT developments in their respective countries.

DISSEMINATION PLAN, CLOSING THE LOOP AND RESEARCH UTILISATION

In Acacia II, dissemination, closing the loop and the utilisation of research results are seen as dynamically inter-linked processes that need to be integrated into all major stages of the research activity. This perspective gives rise to an approach that ought to expand the number of boundary partners and significantly shorten the time between traditionally conducted research and its utilisation by an elite. This approach will broaden the appeal, availability and accessibility of ICT research, knowledge and information to a mass audience.

Dissemination Plan A variety of dissemination strategies and methods will be deployed, specifically: formal publications, conferences and workshops; the Internet; and multi-media and promotional materials.

GENDER AND SOCIAL INCLUSION

Acacia II will integrate gender dimensions into projects by: (i) encouraging researchers and program staff to give greater priority to gender considerations and, when necessary, providing gender training; (ii) developing guidelines on the mainstreaming of gender in ICT research; and (iii) integrating gender dimensions into project design and encouraging gender analysis during project implementation, monitoring and evaluation. Acacia will also promote projects that address gender and promote women’s empowerment as appropriate in the context of Acacia’s overall goal and objectives. It will also examine gender differences in people having access to ICTs and benefiting from them.

SYNERGIES AND PARTNERSHIPS

Intra-IDRC Links
Acacia II will work with PAN Asia (benefiting notably from its work in applied policy innovation and rural demonstration projects), PAN Americas and the Bellanet Secretariat (especially in relation to hosting the Canadian Advisory Committee Consultation on DOTForce within the ICT4D area). In turn, these associates will gain from Acacia’s experiments with ICT research projects in rural Africa.

Partnerships will focus on planned flagship projects to enhance the visibility of such activities and improve their attractiveness (for example, Democratising Access to ICTs in Africa; CurriculumNet; and IMPACT Africa).

RISKS AND BARRIERS

- Powerful hostility that rates other development issues higher on the agenda. Targeted dissemination of research results will be used to improve "buy-in."
• **Program loss of identity** in the crowded ICT development field. Acacia will adopt a clear research focus - a "niche" - that is distinct and relevant to African development.

• **The paucity of expertise and methodologies** in the area of ICT research for development is a threat, as is the rapid pace of change in ICT technologies.

• **Sustainability** - the meaning of which continues to be explored - requires action and co-operation among governments, the private sector, NGOs and civil society.

### EXPECTED OUTPUTS

The expected outputs of Acacia II will include dissemination outputs (e.g., publications, papers, a Pan-African Conference and digital videos), as well as the African Telecentre HelpDesk, a global "knowledge-clearing-house" on telecentres, and Infomediary, which was established to foster South-South links and the exchange of experiences related to telecentres for development.

### MONITORING, EVALUATION AND ACCOUNTABILITY

Acacia can, it is hoped, add value to the process of change, particularly by linking what is learned from research to the development outcomes. The methodology for learning developed for Acacia I involves interaction and participation among stakeholders at all levels and ensures that issues, problems and lessons are shared, adapted and fed back into program and project implementation. Acacia II will treat evaluation as a planning and management tool, and learning and evaluation will be embedded at every level of the initiative. This will allow for assessment of the program's impact on community lives. It will also increase our understanding of the role and effects of ICTs in terms of development.

### PROJECT MONITORING AND EVALUATION

Project monitoring and evaluation are means to assess and improve the capacities of partner institutions. They may also provide guidance for the development of follow-up projects, training plans and external evaluation.

- **Proposal Review** Each project will be reviewed to ensure that evaluation and continuous learning are integrated into all stages of the project's implementation.

- **Monitoring and evaluation** Baseline data will be established for each project to allow for periodic impact assessment and measurement of progress.

- **Record-keeping** A reliable record of information generated during implementation will enable research managers to track progress and adjust operations in light of experience.

### PROGRAM EVALUATION

Project monitoring and project evaluation will feed into program evaluation to ensure that the project objectives and outputs are in keeping with those of the larger program. Acacia will work with the Evaluation Unit and with recommended independent experts to carry out program evaluation.
TEAM EVALUATION

Self-assessment of individual and team performance will be conducted according to pre-established roles and responsibilities. Recommendations for improvement will be shared and discussed with the team. The Team Leader will conduct Confidential Annual Performance Appraisal Reviews of team members to supplement self-appraisals. Management will assess team leadership.

FOOTNOTES:

- (1) For an empirical representation of the “migration” and the time-frames see Fuchs, Richard “ICTs and Poverty Reduction” A Presentation to the Organization of Economic Cooperation and Development. March 2001 (back to the text)
- (2) (HDR 2001, p. 40) (back to the text)
- (4) A systematic basis for new country selection was used within the Acacia Strategic Planning process. The criteria included predisposition of national policy environment, identification of local champions, special features for ICT4D research themes and congruence with IDRC regional office priorities (back to the text)