



CHAPTER 11

A PILOT TELECENTRES PROJECT IN MOZAMBIQUE

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LOCATION AND CONTEXT

Mozambique is a long country of 799,380 square kilometres with around 16 million mainly rural inhabitants, 70% of whom live in absolute poverty. Having won independence from Portugal in 1975, the country suffered from being a neighbour to the white minority regimes of Rhodesia and South Africa and its infrastructure and economy were almost totally destroyed by an intermittent war that only ended in 1992. When peace finally came, Mozambique was officially classified as the world's poorest country. By 1999, it was still seventh from the bottom in the U.N. Development Programme's Human Development Index. And in 2000, floods and cyclones in the southern and central areas of the country wiped out many of the socio-economic advances made since the war years.

The Namaacha and Manhica districts, where Mozambique's two pilot telecentre projects are based, are similar in size and are both within easy reach of the capital city, Maputo, about 75 kilometres away by good highways. They are, however, quite different in their population sizes and economic bases.

Lying to the south of Maputo, in the rolling hills bordering Swaziland, Namaacha district covers 2,144 square kilometres and, according to the 1997 Population and Housing Census, has a population of 31,259, with just under one-third living in urban areas. Its main economic activities are small-scale cross-border trading, farming and tourism and its only industries are a factory that bottles mineral water and a sawmill, both of which are privately owned. There are a number of educational institutions in Namaacha and the town looks deceptively wealthy. Solid houses dating from colonial days line its main street and dot the surrounding hillsides, but these are far from the norm.

Manhica district covers 2,380 square kilometres, has a population of 129,476, or four times that of Namaacha district, and an urban population of around 22,000. Its main economic activities are farming, agro-industry and catering for travellers and migrant

miners. Manhiça has significantly larger numbers of people in the higher income bands than Namaacha, and particularly in the top band of 3,000 contos plus (about US\$251 in 2000). The town of Manhiça is a typical small African town, full of bustle and movement quite alien to Namaacha. It is located on the main road north, overlooking the Incomati River and the fields and sugar plantations that were destroyed by the floods of 2000. One reason for choosing Manhiça as a pilot site for a telecentre was that, in 1998, it was due to become one of the first towns in Mozambique to elect its own mayor and assembly as part of a decentralisation programme.

HISTORY

The pilot telecentre project was conceived at a workshop called “Mozambique: Towards an Information Society,” organised by the Eduardo Mondlane University Informatics Centre (CIUEM) in Maputo in early 1997. This had been organised in response to the Organisation of African Unity’s adoption in the previous year of the African Information Society Initiative (AISII) proposed by the Economic Commission for Africa. The key concerns were to find ways of extending access to, and use of, information and communications technologies (ICTs) for those unable to afford individual ownership of the technology; apply these to developmental applications for the poorly educated, unemployed and underemployed; and ensure that Mozambique was not merely a consumer of content from the developed world, but a producer of material for its own indigenous needs.

The Canadian International Development Research Centre (IDRC), which was launching the Acacia Programme, agreed to fund a feasibility study to verify the viability and acceptability of the telecentre concept in Mozambique and make recommendations for a pilot project. This study was led by CIUEM and carried out by a multidisciplinary team from the university and the national telecom company (TDM). The government was concurrently thinking through its national ICT policy and granted full support to the project. The governor of Maputo province was particularly enthusiastic about the idea, telling the team that although the provincial government did not yet have any computers, he had used computers and e-mail in his former role as a trade union leader and was well aware of their potential benefits to the community.

The feasibility study team developed a working definition of a telecentre for Mozambique and a methodology for selecting the sites and testing out conditions. It was decided that the pilot project should aim for supporting local development and reconciling the need for sustainability with the need to serve the poor. It was decided to leave the more commercially oriented cyber café type of operation to the private sector and conduct the pilot project in two rural areas where the technical conditions, needs and potential applications offered the best chances of success. By these criteria, the two district capitals, Namaacha and Manhiça, appeared to be the most appropriate sites. They already had at least two public phones provided by TDM and several privately operated booths, so the primary need was not simply to install telephony but to introduce computers, computer peripherals, e-mail and so on, and to test them in these particular contexts.

A survey of potential users was conducted by means of a questionnaire directed at a stratified sample of teachers, students, professionals and representatives of the private sector and local organisations. The findings were similar in both towns:

- The majority of the survey respondents declared higher levels of expenditure than income.

- The monthly income distribution lay in the 501 – 800 contos (US\$42 – \$67) range with teachers in the 800 – 1,200 contos bracket.
- The state was reported as being the largest employer.
- Fifty-three per cent of men and 56% of women worked in smallholder agriculture.
- Five per cent of men and 8% of women were teachers, nurses or other professionals.
- Forty-five per cent of the sample had completed 8th grade or more, but women had significantly lower levels of schooling than men.
- Expenditure on housing and food was a top concern, but 20% of respondents defined education as their second expenditure priority and 37% as their third (33% put transport in third place).
- Asked to rank priorities among potential telecentre services, respondents put computer training in first place by a long margin, followed by access to distance learning and access to information.
- However, asked to indicate willingness to pay for telecentre services at three different price levels, respondents still put computer training in first place, but followed this with phone access and photocopying. Access to information was ranked low.

The consistency of these survey findings suggested that the telecentres could be useful for meeting educational, communication and access needs, that there would be a demand, and that people would be willing to pay for these services, albeit at the lowest prices. However, such findings need to be treated with some caution. Expressions of willingness to pay should never be confused with actual ability to pay, especially where income levels are low. There was also no guarantee that the explanatory leaflet and verbal descriptions were really understood, and the people had been asked whether they wanted things such as e-mail (translated into “quick and cheap communication”) which they had never actually seen in action. And if people are asked if they want something new, they are always more likely to answer yes. Ultimately, the answers to the questions had to be tested in the realities of the pilot telecentre project.

AFFILIATIONS AND STRATEGIC ALLIANCES

At the local level, the main alliances were with those most likely to be the immediate users of the telecentres — the educational institutions, professional groups and local government, private sector and community organisations. The initial fieldwork helped to raise awareness and establish friendly working relationships with these potential stakeholders, and particularly with the schools. Once the pilot project was approved, one-day workshops were held in Namaacha and Manhiça to present the survey’s findings, demonstrate the use of e-mail and the Internet, and discuss the steps and resources needed to establish the telecentres. Further local involvement came through contracting local builders, electricians and carpenters to help set up the telecentres. Many of these groups are now using the telecentres on a day-to-day basis, but such is the level of local institutional development that it is somewhat unreal to talk of “strategic alliances.” One foreign non-governmental organisation (NGO) working in Manhiça district makes use of the telecentre; otherwise there is little foreign donor activity.

At the central level, the information-gathering process resulted in contacts with rural development and other governmental agencies and national NGOs. There also appeared to be prospects of co-operating with community radio stations, distance education

providers, and health and justice authorities, disseminating public information and supporting their local representatives. However, little of this has so far come about.

Attempts to forge partnerships with private-sector equipment suppliers was a little more successful, but only to the extent of gaining some discounts and offers of free technical support. One computer supplier who initially expressed interest in working with the project lost all interest on finding that it was intended for rural areas, suggesting that it would be “so much easier if it were switched to Maputo.” And, notwithstanding excellent collaboration on the ground from TDM when setting up the telecentres, it refused to consider providing any additional subsidy towards the cost of e-mail/Internet calls until government policy allowed for this.

FUNCTIONS

The telecentres provide users with access to computers for word processing, games, CD-ROM usage, e-mail and Internet. However, the most popular services to date are the public phones, fax, photocopying and binding, library, TV and video.

Computer training courses were launched at the end of 1999 with the support of the CIUEM Training Department. Although these courses are much in demand, unfortunately there are no computers available for general access. However, the plan is to train intensively, build up a group of committed users, and then re-organise the timetables to allow more general access towards the end of 2000.

Such is the quality of the telecommunications, levels of skill and level of ICT usage in Mozambique that it is far too premature to talk of teleworking or hooking the telecentres into distance education networks and the like. For ICTs to be used in such ways, the users first need to have other people they wish to communicate with via e-mail, and then they need to have educational and information materials that they want online, in languages and forms they can understand. Ways must be found to create such systems. Accordingly, an important long-term aim of this project has been to create awareness of the potential for information gathering, exchange and networking and to provide training in Web site design and so on. Newspapers containing information downloaded from the Internet are already features of the project. It is planned to launch local newspapers, and many other such projects are now under discussion or actually at the planning stage. With the expansion of the base of technology-literate users, the telecentres should really come into their own over the next few years.

COSTS AND FUNDING

The investment costs are fully met under the terms of a four-year commitment by the IDRC Acacia Programme, and the content sub-component described above is funded by UNESCO. This funding was requested on the basis of an economic study and business plan which showed that, on the basis of real costs, installed capacity and estimated demand, the telecentres could just about break even on current expenditure by the end of their first year and would probably continue to improve their results. They could not, however, be expected to cover the depreciation costs of US\$7,000 – \$10,000 per year. In making these calculations, the computer equipment was depreciated at 25% a year to allow for the rapid evolution of hardware and software and to ensure that the communities kept up with technology change and had the best and fastest ICTs. This depreciation rate may in fact prove to be overly optimistic, as the wear and tear of public use may shorten the life of the computers and peripherals.

The telecentres operate on an autonomous commercial basis and all of their services are on a user-pay basis. Subsidies are built into the e-mail and Internet access to offset the high cost of inter-urban phone calls to the nearest Internet service provider (ISP) in Maputo and to build up the number of users. Wages and running costs have been paid out of revenue since the second month, with the exception of the phone bills which are currently still under discussion with TDM. The centres' staff are made fully responsible for all administration and financial management. The aim is to establish the telecentres as long-term enterprises, with staff reliant for their incomes on their production and service provisions, rather than to inculcate a "project mentality" with funding rolling in regularly from external sources, regardless of what is actually happening on the ground.

The planned strategy for covering the cost of subsidies and extending services to new groups of users was to seek sponsorship from local or national organisations. To date, however, little has been done to promote such schemes. Meanwhile, various targeted activities are funded by the IDRC from the sponsorship component of the project budget.

ACCOMMODATION

The two centres are trialling two types of accommodation: co-location and stand-alone.

The Namaacha telecentre is based in a former workshop within the precinct of the local secondary school to which it pays rent and with which it has developed a special relationship. It is housed in one large room, about 10 metres x 12 metres.

The Manhica telecentre is located on the town's main street in an outbuilding that was formerly a store, set between a café, to which it pays rent, and a church. Again, given the small scale of the project, it was considered better to house all of the services in a single work area where the staff could keep an eye on things.

Both telecentres have access to running water and toilet facilities.

MANAGEMENT

At the local level, the telecentres are managed on a day-to-day basis by their respective staff and supervised and supported by Local Monitoring Committees (CALs) whose members are representative of all the key sectors. At the central level, the project is managed by the CIUEM which provides the technical and maintenance support and maintains regular contact both with the centres' staff and the CALs. The CIUEM owns the pilot project, and one of the CALs' tasks will be to propose the ownership of the centres beyond the pilot phase. The telecentres did not come about through any prior spontaneous local demand, but as an external initiative by the university. Therefore, the challenge now is to manage the necessary appropriation by the local beneficiaries. As in any development process, this is taking time to work through.

STAFFING

Each centre has a manager, an assistant and two guards (day and night). All of these staff are locally recruited. Their wages approximate to local rates, despite the fact that these personnel have greater-than-usual responsibilities and accountability for the technical resources and money.

All of the staff have at least 10th grade, and the Manhiça manager had completed a middle-level statistics course in Cuba. The Manhiça manager and assistant had prior computing experience, having worked on data input at the local Health Research Centre. When it came to recruiting staff at Namaacha, it turned out that there were no candidates with these skills. Selection therefore had to be simply on the basis of work experience and initiative.

TRAINING

The centres' staff were given initial training by the CIUEM in Windows, Word, Excel, e-mail/Internet, hardware maintenance and troubleshooting, financial management and administration, and promotion and marketing. The project budget covers annual retraining and staff have subsequently received on-the-job training in technical and administrative matters and in organising and teaching computer courses. The staff consult frequently among themselves and have organised exchange visits between the two telecentres as part of their self-help learning.

The members of the CALs were also invited to take part in the initial training programmes, partly to give them some tangible benefits and partly to encourage their ongoing commitment and participation.

Courses are provided for the general public in Windows, Word, Excel and e-mail/Internet. Web design courses are planned for. In providing computer training, as in much else, Namaacha has had greater difficulties than Manhiça because its staff have less computer experience. However, they have worked hard to catch up. The computing courses are taught to groups of six (two people per computer), using training manuals produced by the Manhiça telecentre staff and approved by the CIUEM after evaluation on the very first courses. Those graduating from these courses receive certificates.

PUBLICITY

The first major publicity campaign centred around the telecentre inauguration ceremony in Manhiça in August 1999. Leaflets were prepared and distributed in the town and administrative posts, considerable coverage was given in the press, radio (particularly the local language radio) and TV, and the event attracted many people and generated considerable interest.

The telecentre staff have since produced more leaflets, wall posters and wall newspapers based on material from the Internet. One member of the Manhiça CAL observed, "In Manhiça these days, a document practically isn't considered a document unless it's computerised."

Staff have also encouraged the CALs and specially recruited community volunteers to help in spreading the word. The Namaacha centre has produced or supported local cultural and entertainment activities to attract more young people to use the services.

The CIUEM has created a Web site for the telecentres (www.telecentros.org.mz), but this is not updated regularly. Once the telecentre staff have been trained in Web design, this site will be largely their responsibility. One difficulty using the Web to promote international interest is that all the materials are currently in Portuguese and nobody has the time or funding to translate these into English or other languages.

ACCESS

To facilitate those people who are in jobs, the telecentres open later and close later than shops or offices — typically, from 9:00 a.m. to 1:00 p.m. and 3:00 p.m. to 6:00 p.m. Mondays to Fridays, and from 9:00 a.m. to 12 noon on Saturdays. There is great pressure for the centres to open all day on Saturdays, but the problem here is ensuring that the staff are not exploited. As it is, staff often operate informal systems of flexi-time in order to fit in their training.

There are burglar bars and outside lighting for security and wall safes for the money. The guards are supposedly on duty 24 hours a day, but they also clean, garden, fetch water, run errands and attend to the public, so in practice they are not always there. So far, however, security has been relaxed, the doors stand open all day and the CALs and staff do not expect any trouble. Winning local support and involvement seems to guarantee the safety of the premises, but the possibility of outside gangs attracted by the thought of the computer equipment can never be ruled out.

TECHNOLOGY

Each telecentre is equipped with four computers. One is used for management purposes and has greater capacity and could be used as a server. The other three are for public use. These are connected in a local network to an Internet hub, modem and dedicated phone line for e-mail and Internet access, and to an ink-jet and laser printer. Each computer has a UPS (uninterruptible power supply) and surge protector, and an AVS system is also installed by the fuse-box. The electricity system is earthed and there is a lightning conductor.

After much discussion it was decided to use the Windows 95 operating system. This has the advantage of being simpler and requiring lower levels of technical knowledge than UNIX or LINUX, but the downside is the difficulty of protecting the configurations from human error. Microsoft Office and Pegasus Mail account for the main software. Using the English versions of these was a contentious issue, but English-language software is the norm in Maputo, so it was felt that this was more appropriate for those needing computer skills for employment purposes.

E-mail access is by ordinary phone line and dial-up to the ISP, which is currently the CIUEM. A leased line would provide better quality, but the pilot aims to test conditions that can be replicated in other such regions. There is also the question of the cost to volume-of-business equation which can only be answered through practical experience. If volume shows a sufficient growth trend, the cost of a leased line may be justified.

Placing public phones and photocopiers in the telecentres has proved successful in attracting people from all walks of life, people who might be initially fearful of computers. In the first quarter of 2000, Manhiça had an average of 4,000 users a month and Namaacha, 8,000 – 9,000.

RESEARCH AND EVALUATION

Research and evaluation are expected to be integral components of all Acacia pilot projects. However, it has proved difficult to make time for this. So much effort and attention has gone into simply getting the telecentres off the ground and, for CIUEM,

managing this project has been but one of many tasks, without even an extra part-timer to assist with the work.

From day one of the project, an anonymous usage monitoring and database system was built into the centres' operations — a daily chart wherein visitors are registered by age group, gender and service used. The figures are aggregated monthly. A membership card system for computer access has since been introduced, partly for ease of use and partly to collect more data about users in a non-intimidating way. Income and expenditure are summarised in monthly reports and all equipment failures, power cuts and other technical problems are also carefully logged.

The aim now is to complement such basic quantitative information with more qualitative research, conducted over time. This work began in August 2000, using UEM students to do the legwork. A mix of sample surveys, interviews and direct observation techniques are being used to establish who uses the telecentres and for what purposes, who does not use the centres and why, the quality of services, and the sustainability of the centres. The fundamental question is, of course, what impact are the telecentres having on local development? In this regard, it is the view of the project team that measuring impact on individuals and organisations is far more realistic than basing grand claims on more macro trends.

CONCLUSIONS

The telecentres had their first birthday in August 2000, and in Namaacha a programme of cultural activities, sports and entertainment attracted large crowds. It is really far too early to draw conclusions as to the telecentres' success or otherwise. However, the project has proved to be an intensive learning process for everyone involved.

The positive factors have been:

- the climate of political support at both the national and local level;
- the fact that the project was designed and is managed by a known and respected national university and a multidisciplinary team that understands local realities, rather than consultants parachuted in for brief visits; and
- the presence of a keen and dynamic district administrator in Manhiça who has helped to gain local involvement over time.

The negative factors have been:

- the poor quality power supply, including frequent power cuts, particularly in Namaacha;
- the high cost of phone calls, impeding Internet use; and
- Namaacha's small population base and low level of development, which have been reflected in the quality of the centre's staff and the less dynamic Local Monitoring Committee.

Advising others may often seem like stating the obvious, but there are several points to be made from the Mozambique experience. The first and most important is that rural telecentres must be regarded as development projects rather than technology projects. Looking to new technologies as some kind of quick-fix to existing or development problems is fatal. By the same token, the practical and technical difficulties of establishing telecentres must not divert attention from the main goal: improving people's well-being over the long term.

Second, while there are undoubtedly some general rules and principles that must be applied in planning and providing the services and integrating these into the community, there can be no single fixed model for telecentres. There are vast differences in context not only between developed and developing countries and between different countries on the same continent, but — as the Mozambique experience has shown — also between towns only 150 kilometres apart. The current attempts to systematise and produce common methodologies, manuals and the like for telecentres runs the risk of mystifying the concept, frightening off people and forcing premature conclusions on decision-makers. Anyone wishing to become involved in starting a telecentre should find out as much as possible about other people's experiences, consider how these relate to the local circumstances and culture, and then adapt and build from these.

Planning for sustainability is the third point. It is imperative to ensure that such projects do not collapse as soon as donor funding runs out. Few African countries are in a position to provide much government funding for telecentres, but they can provide policy incentives, such as telephone subsidies and tax exemptions for public access centres, and specific current budget funding for telecentre users such as local government institutions. Governments, NGOs and other agencies must therefore try to co-ordinate their plans so that there is a solid core of support for public access centres rather than investment in dispersed and individually used equipment. Investment is expensive and running costs and depreciation must be projected as realistically as possible.

Fourth, the managers of such projects must ensure effective training, technical support and maintenance back-up. The CIUEM technicians complained of being repeatedly called out only to find that human error was the real cause of the problem.

Finally, managers must expect to spend a lot of time trouble-shooting, especially in the early days of the centres. In the Mozambique experience, management time had to be given in much larger measure than originally planned or budgeted.

The future of the Mozambique telecentres is inevitably linked to economic growth, political and social stability, and the absence of further major natural disasters. Access to ICTs must be provided by one means or another to the rural and poor of the country. There is no point arguing that poor countries cannot afford this. Those who fail to get onto the information highway will fall even farther off the map. Whether telecentres in their present form prove to be successful or not, some method of community-based access is the likely way forward. It must be a case of try and try again until a solution is found.

Future technologies may help, reducing the need for power and telecommunications infrastructure and costs, but so far the cost is high. There is a tendency towards using a "commercial model" for telecentres, in the name of sustainability and public-private partnership. In remote rural areas, this will probably mean opting for the "phone shop plus" model rather than the fully fledged developmental telecentre model, and setting up centres where demand already exists. Such initiatives can undoubtedly bring great benefit. However, a likely consequence of this is that the really poor will continue to be excluded from the benefits of ICTs in favour of the more prosperous farmers, small entrepreneurs and community members; and the proactive interventions in content-gathering, production and dissemination — all of which need time, effort and money — will be sacrificed. International support will therefore still be needed in countries such as Mozambique, as will imaginative use of development funds provided by governments.

Major developments in other areas will encourage the establishment of public access centres. There will be progressive development of services and activities based on ICT, from distance learning to e-commerce, more content in local languages and a dramatic increase in the national user base. National NGOs will increasingly use e-mail and Web sites to communicate and disseminate information horizontally — concerning women’s issues, land struggles, human rights and so on — and so, likely, will governments. Other applications, such as teleworking and telehealth, will surely follow on naturally from these.

Adopting a “build it and they will come” approach, as in the Mozambique project, may not always be the most appropriate way. There is danger in building telecentres prematurely, before ensuring that the needs and useful applications are there. But we had to start somewhere and the Mozambique pilot telecentre programme is showing that once started, a new, mutually reinforcing dynamic comes into play. The lessons learned will contribute to the long-term achievement of our goals.

