Chapter 6

Community Multimedia Centres: Creating digital opportunities for all

Stella Hughes

In the era of the knowledge society and the knowledge economy, access to the infrastructure to share knowledge is paramount for social and economic development. Within the international development community, there is now strong consensus on this. It is widely agreed that information, communication and knowledge cannot remain the preserve of development experts in tackling poverty but must become the basic tools of the poor in improving their own lives. There is equally strong consensus on the dangers of the accelerating inequity of access to knowledge both within and between countries.

Strategies to increase access to knowledge for development need to integrate fully both their approach to the new knowledge resources and their approach to traditional knowledge systems. On the one hand, the introduction of new ICTs into poor or marginalised communities works best when it draws on traditional channels of communication and information, on the reservoirs of indigenous knowledge within the community and on its existing information resources. On the other hand, traditional forms of knowledge acquisition are insufficient to foster an inclusive knowledge society. People in poor and marginalised communities need access to mechanisms that provide multiple sources of rapid information and information exchange. The Internet and associated technologies are pivotal to the new means of knowledge acquisition. The question is: how should new ICTs and traditional knowledge systems be integrated at the community level in order to maximise the development potential of both?

Kothmale, Sri Lanka

In response to this challenge, UNESCO examined two areas in which it already had a well-established track record: long-standing involvement with grass-roots community radio; and more recent involvement with the multipurpose community telecentre. The result of bringing the two together in a novel manner is the Community Multimedia Centre (CMC). This combines community broadcasting with community telecentre facilities and offers a strategy that integrates new and traditional information and communication systems at the local level.

When community radio and new ICTs are actively combined, they offer far greater possibilities for engaging a community in its own development. The possibilities generated by the combination of the two are not confined to quantity or range; the qualitative nature of these possibilities also changes. This is because of the particularly dynamic relationship between communication and information, between contact and content. The combination of a grassroots public platform with access to information highways promotes the public debate and public accountability that are essential for strengthening democracy and good governance. The combination of local radio with a community database developed by local people, building up a store of relevant data for educational, informational and developmental requirements, provides a solid knowledge base for the community and an open learning infrastructure for all its members. It also takes into account the preference of rural communities for a collective assimilation of knowledge, in contrast to the prevailing mode of individual access to Internet.

This summarises the rationale behind the first pilot project supported by UNESCO in this field. The CMC is a recent development and the first of its kind, the Kothmale Internet Radio project in Sri Lanka, only reaches the end of its pilot project phase, with an independent, external evaluation at the time of writing (last quarter 2001). Kothmale Community Radio (KCR) was set up 20 years ago by the Sri Lanka Broadcasting Corporation when the construction of the Kothmale dam displaced entire villages. Local radio was chosen as a strategy for helping to rebuild the social fabric for those displaced within this rural community and KCR became an important part of many people's lives. The Kothmale Internet Radio project added a community telecentre facility to the radio station. From the outset, access to Internet was considered both in terms of direct access for members of the community, through training courses or the help of facilitators, and also in terms of indirect access through "radio browsing" programmes. In this way, community radio is used as a gateway for a poor community to actively participate in the global knowledge society through "radio browsing" of websites, by encouraging the use of Internet access at the station and encouraging the use of radio as a platform for public debate.

This approach overturns many assumptions about Internet and related technologies: that they are primarily useful for professionals, business people, academics and students or that they are intrinsically part of a consumer life-style, offering new services almost exclusively in the domain of leisure, entertainment, travel and consumer spending. In Kothmale, radio browsing programmes focus on local economic activities, development and governance issues, culture and entertainment. The daily programmes respond to queries from listeners. Presenters first select relevant, reliable websites and broadcast the programme with local resource persons as studio guests (e.g. doctors for a health programme) who discuss the contents of the mostly English-language sites directly in the national languages. They also describe the websites and explain how they are browsing from one web page to another. Thus, listeners not only get the information they requested, but they understand how it is made available on the web. They can respond to the programme and they know that essential data will remain available in the community database if they wish to make individual use of it. With this daily radio programme, there is continuity within a common learning process encouraging greater inter-activity with and by the community.

The impact of this new way of creating shared meanings and interpretations of information for development is a key marker of the success of the project. The radio programme has triggered a greater interest among community members in receiving information related to poverty alleviation efforts, health, formal and non-formal education, livelihood skills and individual empowerment. The assumption behind this approach – that Internet can be useful for everyone – was readily taken up by listeners, most of whom had probably no idea that that there could exist a more elitist approach to new ICTs. This echoes the experience of many projects introducing new technologies to poor communities in the developing world: there are few psychological barriers to overcome among people who have had little or no access to information and communication technologies in any form – new or traditional. A CD-ROM is no more intimidating than an encyclopaedia when one has never used an encyclopaedia.

The Kothmale log book filled by each individual user of the telecentre shows a very wide range of subjects researched by a wide range of users. With an adult literacy rate of 82 percent, Kothmale offers fertile ground for this approach to new knowledge resources. Log book reports vary from one farmer researching information on organic tomato farming to another looking for new varieties of seeds, to a baker seeking new recipes, the local undertaker looking for an on-line funeral business management course, a health worker printing data on mosquito-borne diseases and young people looking for international job opportunities. The radio browsing programmes have also prompted illiterate people to go online with, for example, an elderly woman seeking the help of a facilitator to visit the site of a sacred Buddhist shrine in India. The radio browsing programmes cater in a similar way for

different interest groups. A tea farmer who presents a radio browsing programme found a Tamil-language website explaining new tea drying techniques in southern India and shared this information with the local tea farmers on a browsing programme. Many farmers cultivate bamboo and new uses for bamboo were introduced to Kothmale after a programme browsed a website in the Asia region and found new crafts using bamboo.

When looking at the remarkable ease and speed with which KCR moved into this new, multimedia centre approach, certain pre-existing conditions stand out clearly as having an important impact within the project. The fact that the CMC was built into a well-established community radio station with a core professional staff and experienced grassroots volunteer staff meant many development topics were already covered regularly on air and in ways that sought systematically to convey locally-relevant information in context and with a degree of interactivity between listeners and programme makers. Local resource persons with a traditional role as "knowledge-brokers" for the local community had already been identified and mobilised to participate in community broadcasting. Well-adapted local programming by trusted and familiar broadcasters offered an excellent foundation for the introduction of new ICTs. At the same time, high literacy rates and the generalised secondary-school level of education of the younger generations in Kothmale also impacted positively on both the range and the number of people using ICTs.

Building on these favourable conditions, the project strategy of reaching out to the entire community ensured a continuum of information and communication, involving both the spoken and written word, the most educated and the least educated. The daily browsing programmes provide a crucial link between those more likely and those less likely to use ICTs individually. Even those who would never go to the telecentre themselves have a basic understanding of and share a common language to discuss ICTs, because the radio browsing programmes have made cyberspace familiar territory. The clearest illustration of this is the number of cases in which a senior family member has listened to a browsing programme, then encouraged a younger family member to go onto Internet in search of information useful for the small family business. In Kothmale, there may be a noticeable "generation gap" in terms of individual access to ICTs, but not in terms of appreciating their usefulness.

Such positive factors for developing a CMC did not remove the need for carefully planned outreach activities targeting all groups within the community. Those hardest to reach have been young girls. In spite of messages on the radio announcing free training for women and girls, few came from the poorest hamlets of Kothmale. Only door-to-door "canvassing" finally convinced some of the most marginalised women that the training really was meant for them. One of the lessons of the project has been that proactive gender policies have to be pursued at every level, from targeting women and girls for training opportunities to ensuring that men do not jump the queue for the computers when women are in line. Again, the combination of direct and indirect access to ICTs helps to bridge the gender gap. In Kothmale, 41 percent of telecentre users are women, but they constitute over 50 percent of "radio browsing" users who also interact with new ICTs by telephoning or sending questions to the "radio browsing" producers, then listening to, reacting to and using the information broadcast from the Internet.

Lack of Sinhalese-language materials on-line was a major obstacle, only partly overcome by local efforts to train users to create webpages. Although web skills are so widespread that 40 percent of those making web pages in Kothmale are now peer-taught, only when there are many more "Kothmales" producing their own web pages in Sri Lanka will the lack of locally relevant information in national languages be made good. It is worth noting here that it would take just 50 CMCs in Sri Lanka to ensure that every Sri Lankan is within reach of ICTs and on the right side of the digital divide. The language barrier is less of a problem for Tamil-speakers, thanks to the relatively large number of Tamil-language websites emanating from the large Tamil population of southern India. At present, the radio browsing

formula is the only means to overcome entirely the language barrier, as information on English-language websites is explained and discussed directly in Sinhalese and Tamil. One advantage for Kothmale is the existence of many regionally-based English-language sites carrying a vast range of information relevant for much of the Asian region. The number of school-students at KCR after school hours, surfing the web in English and using English for their email exchanges, indicates that language is far less of a barrier for the younger generations.

Achieving a satisfactory supply of relevant content involves more than the vital matter of identifying and using suitable websites, locally-created or across the Internet. The Kothmale database is building up a collection of useful on-line data, including administrative forms, fact sheets and so forth. On-line governance is a promising future prospect as local and national government documents begin to go online. The CMC has great potential to evolve into a community learning centre, with a library of multimedia learning materials and access to distance education and training courses just some of the possible uses. Already, two access points at public libraries in nearby towns extend access to Internet to many more users and make the physical link to library collections. Local schoolteachers use the Internet to enrich their lessons and take their classes to visit the centre. Some unplanned outcomes of the project can have a significant impact on contents creation and local use of online resources. The combination of individual and community interaction fosters the emergence of new democratic initiatives with a focus on e-campaigning. A new, active and influential environmental NGO, Green Lanka, germinated from the Internet browsing of some young Kothmale residents who decided to "do something" with their new-found IT resources. Green Lanka must be one of only a few NGOs around the world awarding a national "green label" for exports from headquarters in a village (although demand has obliged the NGO to open an office in the capital, Colombo).

The strategy of combining direct and indirect access to new ICTs has also to be assessed in terms of scale and capacity. At present, the number of computers made available to the public through this project is minimal – about six machines in all. While the small telecentre facility and two access points in public libraries can receive up to one or two thousand visits a month, the radio browsing programmes attract many times that number of listeners every day. In this way, a minimal investment in ICT equipment can have an quasi-exponential impact within the community. In the future, some local people and, crucially, other local institutions can be expected to acquire their own equipment as usage generates revenue and purchase costs come down. As the number of users increases, it may become commercially viable for small, private Internet kiosks to set up business. There is no reason to believe that any of these developments would obviate the need for or the usefulness of the present system of mass access through radio browsing and the proactive approach to broad-based participation fostered by community telecentre outreach activities. The CMC formula not only looks set to remain relevant for the medium term, but could become a permanent feature alongside the individual user approach of wealthy consumer societies.

As a pioneering pilot project, Kothmale saw a considerable proportion of the project budget allocated to research and evaluation. From the outset, the project was supported by the national authorities and national institutions – with government ministries supplying the dedicated Internet connection, the Sri Lanka Broadcasting Corporation responsible for the radio station and its professional staff, and Colombo University providing technical support for the computers and networks. This support was important in order to start up a completely new activity in a poor rural area where the level of awareness had not yet created a demand for ICTs. It also needed strong public support for another reason: there was a major credibility barrier to overcome. What did poor, rural people speaking Singhala and Tamil need with Internet? What could justify making ICTs a development priority when there were other, pressing needs? What motivation would people have and would they sustain their interest for

any length of time? Today, that battle for credibility has been won and will not need to be fought again – in Sri Lanka, at least.

With the example of Kothmale to build on, it is likely that future CMC projects in Sri Lanka will follow a somewhat different model: establishing business plans and sustainability strategies from the outset in order to reduce the degree of dependence on public support, reducing the research component as the model becomes more established and networking with each other to pool resources, training and so on. Links with other institutions such as educational and training institutes, development networks or agricultural co-operatives could become a core component of a CMC.

It is conceivable that, as in other countries where broadcast regulations permit it, the community radio component of a CMC could eventually be started up by the community and be fully owned and operated by the community. However, the intrinsic value of building the CMC on an existing local station that is part of the national public broadcaster cannot be overlooked. In the case of Kothmale, the high standard of broadcasting at the station was without a doubt a key to the success of the radio browsing formula. Paradoxically, this model might be of particular interest in those developing countries where chronically under-funded public radios struggle to compete with flourishing new FM stations that are free from public service constraints. By forging a new public service role integrating ICTs, the local stations of national broadcasters could find a new lease of life and benefit from public revenue going into national IT plans.

Timbuktu, Mali

While in Kothmale the CMC grew from the community radio station, in Timbuktu, Mali, it is the community telecentre that has become the basis for a CMC, with the four radio stations of the town sharing use of a new radio studio within the telecentre. The Timbuktu community telecentre, a pilot project backed by a consortium of partners (UNESCO, IDRC, ITU, SOTELMA (national telecom company), WHO and FAO), opened in April 1999 and was planned as a fairly large-scale infrastructure eventually able to offer specialised services such as telemedicine and distance learning as well as basic services to all members of the community. UNESCO added the radio equipment to the telecentre in September 2001 in order to enable the local radio stations to make full use of new ICTs and start radio browsing programmes. The local municipal station, Radio Bouctou, and the three private or associative stations, Radio Alfarouk, Radio Lafia and Radio Jamana run on minimal revenue, equipment and human resources.

Timbuktu and the surrounding area have a far smaller population than Kothmale and an adult illiteracy rate of 50 percent. Its telecentre – three times larger than Kothmale's, with 18 computers – is constantly busy. When this ICT project was proposed and even though the literacy levels, income levels and population density are far lower than in Sri Lanka, there was no credibility barrier to overcome. Timbuktu suffers from such extreme geographical isolation – with currently just one flight a week made by a 14-seater plane and river boat services taking four days from the capital Bamako – that the contact potential of ICTs was embraced with great enthusiasm from the outset. A remarkable indicator of this support and degree of faith in the benefits of these technologies was the substantial financial contribution made not only by townspeople but by the inhabitants of 43 outlying villages.

The telecentre made a series of attempts to encourage the town's radio stations to use its services. Timbuktu's four radio stations broadcast in a total of six languages to the townspeople and to villages within a 100 km radius. The first users of the community telecentre were not surprisingly the local elite – teachers, office workers, doctors, business people and so on. In order to expand access, a study was made of user needs according to social groups – women, youth, nomadic herders, traders, media etc. – and outreach activities organised. The results were not necessarily what could have been expected: some categories

that might have been thought the hardest to reach became aware of the value of ICTs much sooner than, for example, the radio staff of the town.

Several illiterate and semi-literate Touareg camel herders were among the quickest to use the centre in order to open email accounts and deal directly with their tourist clients overseas. While these users now know how to navigate, open their mail box and access their mail with ease, they have to print out each message as they read with great difficulty or only with assistance. Similarly, writing a reply is a difficult task and some use the telecentre email-writing service. This does not appear to be an obstacle as the total cost is cheap and the message instantaneous. As a measure of motivation, one Touareg travels 400km about once a month to access his email. If he cannot get a lift with a tourist convoy, this takes him up to a week by camel. This link enables him to run his small tourist guide business and launch projects in his oasis village of Arawane. Most other herders working as guides and using the centre travel in daily from camps some 10 km out of Timbuktu.

The hardest-to-reach group – young girls – still forms a minority of users. The single most successful strategy to encourage Internet access among schoolgirls was to find them email pen-friends, mostly from neighbouring countries in French-speaking West Africa. For women's outreach activities, as for those targeting other groups, existing structures were mobilised and local women's associations still provide the key link to the female population. Most women users are however still from the more privileged groups such as office workers and health workers. Illiterate adults were targeted with great success. Computer-based literacy classes are in demand and three literacy tutors run courses in the telecentre in which they take a discreet, low-profile approach, allowing their "students" to blend in with other computer-users. A self-tutoring literacy software package is currently being finalised.

In contrast to the successes of outreach activities for these groups, attempts to attract radio staff initially had significantly lower impact. Only two people working in radio stations came to use the centre spontaneously. The heads of the radio stations or their representatives were first given an introductory course. This was followed by a full basic computer training course given free to two staff members from each station. The telecentre then donated a computer to each station, stipulating that these should be used to train colleagues by those who had followed the basic training course. Another training session was carried out for radio staff on use of CD-ROMs and the telecentre staff then visited each station, presenting the contents of development CD-ROMs and loading contents onto the stations' computers. Almost a year after these efforts began, the computers in the radio stations were however still visibly under-used and radio staff in a noticeable minority among telecentre users. Usage of the computers in the radio stations appeared to be inhibited by problems of social relations in the workplace: those who now had computer skills were not in a hierarchical position that allowed them to take initiatives with "high-status" equipment – the computer.

Only when the telecentre got a high-speed line and was able to offer a good Internet connection did radio staff use of computers pick up. A free Internet course was given to one staff member per station (offered to those who had not benefited from previous training sessions) and free access to Internet and print-outs of information for programmes offered to all radio staff. At this stage, the first real numbers of radio staff began using the centre, opening email accounts and surfing the web. However, the only radio programmes for which web searches were used regularly concerned sports, music stars and horoscopes. Attempts by the telecentre managers to organise the making of development programmes in the telecentre failed. As in many other parts of the developing world, in Timbuktu development partners – NGOs and IGOs – have been in the habit of paying local radio stations to broadcast development programmes. Although the development partners may view this as general support for community media, the hard-pressed radio directors naturally enough come to view development programmes as a legitimate source of revenue and are reluctant to use their own resources to make relatively time-consuming, high-input programmes.

The radio equipment donated by UNESCO and housed in the telecentre, a Wantok FM radio station-in-a-suitcase, was intended to break this pattern and encourage greater use of Internet by radio staff for making programmes on development issues as part of their regular programming. Training was given in radio browsing techniques: pre-selection of useful websites, advanced search methods, methods of saving or "storing" selected webpages, techniques (for both presenters and resource persons) for describing or visualising web contents and so on. The radio browsing concept was embraced with great enthusiasm by the generally young radio presenters who were eager to use the technique to cover development issues and clearly enjoyed this new dimension of radio presenting, experiencing it as enhancing their role and status as information-brokers. This high level of motivation is crucial as these presenters are paid very little or not at all. With the introduction of the suitcase radio, their use of the telecentre immediately rose.

However, none of the radio staff had sufficiently good web browsing skills to be able to prepare browsing programmes with ease after the initial, limited number of training sessions. Under the agreement made with the radio and telecentre directors, the telecentre staff will continue Internet training and assist in radio browsing production, at least until the presenters become fully competent. The telecentre now plans to budget for digital audio editing software and a minidisk, which will further encourage radio staff to use the centre and to develop radio/telecentre co-productions. The advantages of a co-production system benefit both parties. The telecentre needs to expand its user-base in order to increase its revenue to the point of being fully sustainable and radio browsing programmes should stimulate demand. Although the radio stations, in return for free services at the centre, had begun broadcasting adverts for the telecentre and its services, it is clear that radio browsing can raise far greater awareness among many more listeners than an advert can.

One of the reasons for low levels of production of development programmes cited by the directors, along with the revenue issue, was the difficulty in getting resource persons to go to the radio stations to take part in programmes. This difficulty should greatly diminish when the resource persons are asked to go to the telecentre to make a programme, as their motivation for going there is far higher: they have email accounts, use Internet and world-processing and would generally make good use of a visit. Another benefit for the radios lies in the fact that none of the radio stations previously had a production studio and were only able to make pre-recorded programmes in the few hours per day when they were off air. They now have the option of using the equipment in the telecentre for recorded or live programmes.

The telecentre's regular users also represent a reservoir of valuable interviewees. The telecentre plans to begin producing regular "how to" programmes on ICTs with users as studio guests. The impact on target audiences of a semi-literate Touareg explaining in Tamacheq how he navigates and uses his email is likely to be far higher than if the same explanation is given by a computer engineer. A teenage girl describing in Arabic or Songhai the correspondence she exchanges with email pen friends may, like the nomad, serve as a role model for listeners in her target group.

New programmes are still in the planning stage but a number of existing programmes have been identified as lending themselves to development into browsing programmes. Radio Bouctou has a three-hour programme every evening for the villages of the region and takes calls from relatives abroad with urgent messages, relays announcements and so forth. These villages, which supported the telecentre with donations, have seen little return for their support so far. The director of Radio Bouctou believes that radio browsing for rural audiences could quickly become the first concrete benefit for villagers arising from their investment. One possibility would be to organise a shared email account for each village, enabling distant relative to send news more often and far less expensively. Browsing programmes could target fishing and farming villages with appropriate information for their economic activities and development needs. Radio Alfarouk uses very young volunteer presenters during the school

holidays and these young people could quickly become the "ICT-interface" for school children and students. Not surprisingly, the telecentre has already become a centre of attraction and something of a meeting place for many young people who spend time there every day. Youth browsing programmes could direct them to the best websites for young people and show them that many of their concerns are experienced and discussed by young people all over the world.

The impact of the new telecentre-based radio studio will be monitored for both quantitative and qualitative impact. The number of browsing programmes will be monitored and compared to previous levels of development programming. The number and range of resource persons and the frequency of their participation in browsing programmes will be logged. The topics covered and websites used will be recorded and information on the best web sources made available to all radio staff. Impact will be evaluated in terms of listener response to programmes and request for particular browsing subjects and also in terms of changes in telecentre user patterns. New users will be asked if they decided to come to the centre after following radio browsing programmes and both the number and the range of new users will be matched against radio browsing topics aired.

There are certainly many challenges ahead for the Timbuktu telecentre/radio partnership. There are fewer relevant websites emanating from and intended for developing countries in the French than in the English-speaking world. One response may be to have a focus on CD-ROM browsing as well as Internet browsing. If the telecentre builds up a good library of educational CD-ROMs, for example, this will not only enrich browsing programmes but stimulate demand for use of the computers for learning activities. Another challenge lies in the fact that radio browsing in Timbuktu will have to be done in many more languages than in Kothmale and will have to cater for a far wider range of economic, cultural and social contexts. The radio stations will not derive any direct financial benefit from radio browsing and much will depend on staff motivation. However, indirect financial benefits could include greater support by development partners in response to more effective development programming.

Above all, this is not a new project with a project co-ordinator and it depends on a new dynamic being "spontaneously" created within existing structures: the community telecentre will be seeking to stimulate use of new ICTs by radio stations struggling to compete for very limited advertising revenue. The most immediate motivation for the radio stations lies in the high potential for raising the quality of their programming and therefore getting a very positive audience response, in the availability within the telecentre of excellent equipment for programme-making and in the readiness of telecentre staff and resource persons to contribute to contents development. In the future, networking is likely to improve the situation for contents development, further easing the problem for the cash-strapped radios of time-consuming development production. Mali's *Maison de la Presse* in Bamako already has a daily on-line radio information service. The telecentre plans to equip each radio station with a modem and a connection to the telecentre as a next step.

The CMC formula adopted in Timbuktu is now being considered as a model in national plans for ICT access in Mali's 703 "communes" or local districts. The plan to build a national network of telecentres, ultimately in every commune, is in the final stages of preparation. An initial target will be to set up telecentres in the 50 main administrative centres of Mali. Originally, planners had decided that the best way to link ICT access with broadcasting would be to equip every radio station (of which Mali has over 100) with a computer and a link to the nearest telecentre. This is now being reconsidered in favour of creating a radio studio within each telecentre for all nearby radio stations to use. First and foremost, this should be more cost-effective in a context where funds for the ambitious national access plan are likely to be hard to come by. Crucially, it will also ensure that radio staff are brought into an ICT–rich environment in which they can benefit fully from training and specialist support. As a first step, this appears preferable to the alternative: introducing

minimal ICT equipment into radio studios where there is no specialist back-up to facilitate use of the equipment and where there is no assurance that the equipment will be used adequately.

The contrasting examples of Kothmale and Timbuktu show just how many factors quite extraneous to the actual technology have a determining influence on these two communities' access to new ICTs. In both cases, the goal of *knowledge-sharing* for development is reached through the essential channel of radio broadcasting. It can be argued that individual access to ICTs is also shared in some ways by the individual's circle of family, friends and colleagues. In fact, these two processes together – individual direct access and mass indirect access – offer the optimum formula for achieving both breadth and depth of impact of new ICTs within the community. This is not only because they combine individual empowerment and community empowerment but also because together, they involve the community as a whole in its entry into the knowledge society and knowledge economy. The continuum in the flow and exchange of information between the educated and uneducated, those with and without international languages, between the spoken word and the written word is a force for community cohesion. It also acts as a conduit for the flow and exchange between new knowledge resources and traditional knowledge systems, in which both are able to express their full potential.

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