

Rural Community ICT Applications: The Kothmale Model

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ABSTRACT

Spectacular growth in information and communication technologies (ICTs), and specifically the internet, has the potential to offer a new generation of tools for rural development. The internet, with its huge quantities and variety of content, is increasingly becoming an effective delivery and exchange system for information and knowledge, continuing education and learning. However, rural ICT requires special efforts to create appropriate models for those who can neither afford the Internet access nor have the language capacity to understand the content.¹

New information and communication technologies represent perhaps the greatest tool to date for self-education and value-addition to an individual or community's own efforts for development, yet poor rural communities do not have the necessary awareness, skills or facilities to contribute to their own development using ICTs. The majority and those with the least resources in South Asia are being left out of the benefits of these new technologies and more importantly, rural areas do even have a foothold in the revolution that ICTs are ushering in.

Parallel to other increasing forms of inequity, there is an evident gap, widening at an exponential rate, between those with access to media and ICTs as productive tools and those without. Closing what has become known as 'the digital divide' is particularly important precisely because digital ICTs cut across and add value to all fields of development and offer applications to bridge the spectrum of inequities of which the 'digital divide' is only an extension or a symptom.

The communication scenario along with the political context in the island nation of Sri Lanka is very much similar to most its South Asian neighbours. The metropolis and regional centres are witnessing rapid expansions in telecom and media sectors while telephones, electricity and clean drinking water are luxuries for many in the countryside.

The absence of relevant experience is major barrier for rural ICT usage. One example that offers some useful insight and successful elements for a model is Kothmale Community Radio and Internet in central Sri Lanka.

KOTHMALE

The internet project at Kothmale was initiated in 1998 – by UNESCO in partnership with a series of Sri Lankan and international agencies² – specifically to address 'the digital divide'

¹ Unpublished UNESCO documents related to the replication of the Kothmale project; Wijayananda Jayaweera, 2001.

² Partners included the Sri Lankan Government, Sri Lanka Broadcasting Corporation, Sri Lanka Telecom and University of Colombo

by piloting a model for rural ICT application. It was the initial days of the digital divide discourse.

The elements that make Kothmale stand out in the field of ICT projects are the 'marriage' of internet with local community radio and the innovation in raising rural community awareness of ICTs that this convergence has allowed.

Radio Web Browsing

The community radio station broadcasts a daily 'Radio Browsing the Internet' programme, and in this programme, the broadcasters, supported by resource personnel, browse the Internet on-air together with their listeners and discuss and contextualise information in local language. The radio programme thus contributes to raise awareness about the Internet in a participatory manner, the listeners request the broadcasters to surf the WEB on their behalf and the programme transmits information in response to their requests. This information is explained and contextualised with the help of the studio guests, for example: a local doctor may explain data on a health website." UNESCO Project Documents

Combining Internet with radio, both on and off the air, and approaching radio listeners as potential internet users has taken ICTs to a relatively common place awareness in an area that five years previously was lacking in not only a computer but a telephone. While there are still only a handful of computers and telephones, by interfacing internet through radio, both directly through the physical availability of computers at the radio station and indirectly but with more dramatic results by making web-browsing into the basis for daily radio shows, thousands of people have been exposed to the internet. A significant portion of these people has been able to use the internet themselves and some have benefited directly in terms of education, business and livelihood, entertainment and enjoyment.

The presence of computers and internet access along with the accumulation of skills, largely through peer-based training, has led to an expanded local capacity to use ICTs, one of the project's key achievements. The Kothmale model clearly demonstrates the potential development impact of access to web-based information, both for the individual and the community-at-large. However local capacity exceeds the availability of access points and appropriate content, two other key considerations in rural ICT application, and two and a half years into the project, the benefits appear to be concentrated in certain demographic sectors and the project has not delivered a recipe for sustainability.

KOTHMALE COMMUNITY RADIO

In South Asia where localised media channels continue to be rare to non-existent, Sri Lanka was the first country to introduce non-government radio and predating that by more than a decade, the first to introduce any sort of community radio.

The Sri Lanka Broadcasting Corporation's community radio programming and local FM stations, from their origins in the Mahaweli community radio initiatives in the eighties³, to the Kothmale internet project in the nineties, are an unusual example of community media and a model that other governments, advocates and communities should consider.

SLBC's 'community radio' stations exist officially through the government broadcasting system and SLBC provides an operational infrastructure: salaried and trained staff, studio facilities and equipment, and perhaps most importantly, permission to broadcast.

³ Community radios in Sri Lanka, including Kothmale Community Radio (KCR), came into being during the resettlement of some 60 000 people as a result of the Mahaweli irrigation project. Community radios were identified as a means to mitigate the relocation of people into new areas.

The stations are top down in terms of licensing and core operations, however the functioning of the stations and what impact they have is clearly at the local level.

This is certainly the case at Kothmale Community Radio (KCR), SLBC's best-known community station. KCR is located at Mawathula in the Kothmale Valley in the central hilly area of Sri Lanka, not far from the former capital, Kandy. The towns of Gampola and Nawalapitiya as well as some 50 villages and 17 schools are within the station's broadcast range, giving KCR a total potential audience of over 200 000 people. KCR has one functioning studio that feeds to a 300-watt transmitter that in turn puts out an 11.5 hour split morning-evening broadcast day. The station has a small core staff, some full-time, some paid on a per-programme basis and some volunteers.

Kothmale is a local radio station. Aside from bureaucratic links and a lot of publicity in the past few years about the Kothmale internet project, the station goes largely unnoticed outside of its transmission range. Although it is officially part of SLBC, outside of infrastructure and with certain limitations, Kothmale has a high degree of autonomy if not editorial independence. The station raises funds through advertising, as much as 75% of its budget, and makes independent decisions about programming giving it a degree of autonomy. Management and staffing are local. The station makes use of a significant number of volunteers, features an active listeners' group and has a high degree of community interaction.

However even as the flagship of SLBC's four community stations, Kothmale's potential growth as a rural communications vehicle, for radio or for internet, is limited by the lack of independence. The station has greater capacity than authority in decision-making, is weighed-down by bureaucracy and has greater potential than impact.

Social costs of the 'digital divide'

A frequent scenario that flashed across our minds was rural youth with little or no ICT skills being marginalised in the job market. There are kids in village schools who do not receive their text books on time while their counterparts in urban schools are sending emails and surfing the internet for supplementary information for school projects. Inevitably, all these children will be queuing for employment in the near future and most probably the ones who lack familiarity and skills in ICTs will be sidelined.

Sri Lanka has seen enough blood spilled in its fifty years of independence. There have been two violent youth insurrections in the south and a civil war continues in the north. Marginalisation from the mainstream and frustration of the vernacular-educated youth are often sited as the main reasons underlying these violent reactions. In this context the digital divide is not something academic but something real, something that provokes shocking memories and impulses for action among those who have seen the social cost incurred by unequal opportunities in Sri Lanka.

MJR David in recollections about planning the Kothmale project.

KOTHMALE COMMUNITY RADIO AND INTERNET

The effectiveness of basing the internet project at a community radio is evident not only in increasing local ICT capacity, convergence of the two media also represents a significant expansion in the capacity of local community radio. SLBC's community radio stations had been set up for community communication purposes, two decades had passed and something new was clearly needed. The transformation of community radio into a window for the community to look outwards without losing track of its immediate realities provided a pathway to take community radio forward.

KCR was technically upgraded for the addition of the internet project. Previously situated on an isolated hilltop, the studios and offices were moved to a more accessible location and linked to the transmitter by a separate relay. The new station was wired for the internet using a dedicated 64 kbs microwave connection, a server computer, three internet computers at the radio station itself, two for community access and one for radio programming; also a telephone line.

There were non-technical initiatives to assess the information and communication needs of the community. A field study for the initial needs assessment was conducted by project and station staff, giving them first hand knowledge of how the community perceived computers and internet as well as an opportunity to find out what they expected from the project.

Key points from the operational guidelines developed at a workshop to review the Kothmale project's initial needs assessment:

- The Internet and other new communication technologies should not be presented as a technological gimmick or marvel. They should be presented as a something that is useful in day-to-day life.
- The first precondition for success is active community participation. For this, the computers and other facilities should be placed and operated in a user-friendly manner.
- Simple step-by-step instructions should be prepared on how to use the Internet and there should be someone at the radio stations and access points to explain the Internet and how it is used.
- As many do not have telephones the importance of postcards should be emphasised within the radio program.
- Internet content should be put across the radio program with reference to the local context.
- As a considerable degree of preparation is needed, any single presenter should not do more than one radio program per week.
- Women should be encouraged to participate.
- The local database should be up dated regularly taking in to account information needs that would emerge within the process.
- The staff should not be over cautious about breakdowns in computers. The users should be given a free hand.

MODELLING RURAL COMMUNITY ICT

The Kothmale project targeted different elements that are essential for the success of ICTs in a rural context: community awareness, skills capacity, public access and locally appropriate content. Although the model represents an integrated approach of these elements, the achievements of the project are primarily in the areas of awareness and local capacity. Significantly, the project does demonstrate the potential of the model to apply tangible ICT benefits in a rural area.

AWARENESS

The design of the Kothmale project takes as a starting point that awareness is an integral part of the process of motivating members of a rural community to use ICTs. Awareness leads to access, the growth of capacity through basic and follow-up training, and to demand for locally appropriate content and an increase in local content production.

The critical lack of awareness as to the uses and benefits of information and communication technologies is evident not only in rural areas, with farmers and labourers, but also with the implementers of development programmes, from NGOs to local and district governments. Even where the technologies are available in developing countries, the majority of people, besides the problems of affordability, do not use the internet because they feel uncomfortable using it or are unaware of its utility.

Before a person will use the internet, they must have some sense of what it is. Before they can use it productively, they need to have a sense of what it can do. While this is true everywhere, in rural areas of regions like South Asia basic awareness is a formidable barrier, especially given the absence of factors that in other areas have established a foundation upon which ICT use has mushroomed. ICT coverage in the media that boosts overall awareness tends to come only once a market has been established; likewise, word of mouth functions only when there is something to talk about. In most of rural South Asia there are no computers, not in schools, offices nor homes. There is no sort of visible or affordable internet access at all for that matter. The situation may be changing, but very slowly amongst a vast population.

RADIO WEB BROWSING

Before it was inaugurated at a musical event that drew thousands, the project staff had visited schools, temples and government institutions to talk about the merits of new communication technologies. They used the radio to introduce computers and the internet to listeners. As it got off the ground, the project received a lot of attention and its profile was high in the community.

The morning programs generally announce the daily exchange rates and the daily wholesale agriculture prices from the Central bank of Sri Lanka. The weather report is also read from the internet. The afternoon broadcasts will often incorporate Sri Lankan and world news from Reuters and other web sites.⁴

To some extent, any of Kothmale's radio programmes benefit by having the resources of the web at their disposal as a research tool. However, the project and the programmers have taken it further. KCR introduced the concept of 'radio web browsing', an innovative tool that has been successful not only in addressing information needs, but particularly in terms of raising awareness, a factor that the project has correctly identified as a pre-requisite to addressing information needs through access or content development.

Radio web browsing has opened a window onto the internet for the local community. By linking media, a single computer with access to the internet reaches thousands of people. After researching their topics and choosing websites to feature, Kothmale's programmers browse the internet live on the radio using a computer in the studio. The content of each programme focuses on specific information within a different topic: health, legal issues and ICTs themselves. Staff, volunteers and guest experts provide interpretation and translation of web-based information for the local audience. A huge amount of information becomes accessible, firstly because it is explained in simple terms, secondly because it is contextualised to suit the local environment and thirdly and most importantly, information is presented in the local languages. The programmes have a major appeal because the type of information broadcast is not available to listeners anywhere else and in the early stages of the project the local community knew nothing of the internet.

Important features of the radio web browsing are the format and the timing of the programmes. Significantly, the internet is not used simply as an additional tool for programme research. ICTs and the web become the focus of the programme in terms of both

⁴ Unpublished report on the Kothmale project; Tanya Notley, 2000.

content and format – the shows are essentially live web-browsing telecasts. Nor is the programming isolated in the broadcast week. Radio web browsing is a one hour daily programme block. The radio browsing programmes combine surfing the web for specific information with learning about the internet itself. There are a variety of mechanisms for listener input including postcards and drop-in visits, connections with local schools and community centres.

Testimonial

As a tool of technology, the Internet is very easy to use. The challenging part of it is how to select relevant information and use it appropriately. That's what we have been trying to here with the Internet. We present a program once week because we think that we have to be of some service to the community. Only when information is interpreted within the social context it becomes useful. Let us give you an example. We down loaded information on mosquitoes and generated a discussion that went well beyond the information that was on the Internet. In addition to the information on the internet we discussed several traditional ways to get rid of mosquitoes i.e. growing flower plants, burning leaves etc. that mosquitoes are allergic to. A week later, a villager met me and said *'I listened to your program and I have been thinking of making a mosquito coil using these locally available materials'*. He came up with a paste and rubbed it on a thin bamboo stripe like a jock stick. The fume was much better than the mosquito coils available in the market. It could have been an ideal product for the local market but unfortunately the villager did not have enough capital to invest.

D W Abeykoon & Martin Thelkarage – Lawyers

Statistics point to the success of the Kothmale project's focus on awareness through radio. 48% of users sampled in a survey of 93 heard about the project's internet access because of the radio. In the same sample, 96% of users listened to the station's internet radio programmes: 38% sometimes, 43% usually, and 15% always.⁵

As with other aspects of the Kothmale project, of importance is the fact that groundwork has been laid for future growth. As Kothmale's station controller put it, "At this stage I cannot say these are superb programs, but in the future they will be."⁶ Whatever the format, radio combined with internet offers powerful educational possibilities.

⁵ Results from a survey conducted by Tanya Notley and included in her report (unpublished) on Kothmale (2000). The survey employed a sample of 93 users of the Kothmale internet facilities over a two week period.

⁶ Sunil Wijisinghe, Kothmale Station Controller, quoted in a unpublished project report; Tanya Notley (2000).

SKILLS

Kosala Keetharatne, an 18-year-old regular student to the centre, had never used a computer when he first came to the station one year ago. Like many of the students (48% of survey respondents), he heard about the access centre from the Kothmale FM broadcasts. Now he is creating web pages, animations and computer art. As a volunteer of the station he now teaches computer programs to other students and hosts an internet radio broadcast once per week. "It has changed my life...I have learnt a lot about computers because of this centre...Most of the people who come here don't know how to use a computer. They get their first lesson from here."⁷

Experience in ICT application for marginalised and rural communities has shown that the ability of local residents with no prior computer or internet experience to master basic skills and even move on to more advanced levels should not be underestimated.⁸ Kothmale certainly reinforces this lesson, especially with youth.

One of the most important achievements of the Kothmale project is in the area of skills development. Although there are several factors at play including high literacy rates and a good education system relative to other South Asian countries, the willingness to allow for learning by doing and learning from peers is significant. As one of the guidelines developed for the Kothmale project suggests 'Staff should not be over cautious about breakdowns of the computers. The users should be given a free hand.' It is clear that this directive has been followed and with considerable success.

At the outset of the project and in follow-up stages, there has been formal and informal training for staff and the volunteers who have become facilitators of greater community involvement. In particular, the project benefited from the services of an Australian volunteer who trained and supported a core group of staff and volunteers and was a consistent presence in skills development over the course of two years. Kothmale staff trained 31% of participants surveyed.

More importantly, Kothmale has demonstrated that once participants, especially youth, have basic skills to build on they teach each other and themselves. 44% of users sampled were peer-trained. Kosala, profiled in the above paragraph has gone on to train new participants at a shoot-off project based in the nearby town of Nawalapitiya.

There is also a demand for more opportunities: of the 44% who had an opinion, 35% wanted more computers and 27% wanted more support to their learning how to use them.⁹

ACCESS

The absence of any public access facilities for the internet in rural areas is a huge barrier and a central concern for projects like Kothmale. Rural connectivity is a complicated issue involving the lack of rural telecom and electricity infrastructures, the expense of this infrastructure, commercial reluctance to invest in rural markets, unsupportive government policies, and the lack of appropriate technical solutions. Phone lines in rural areas of South Asia are scarce and the telecom systems used often lack appropriate capacity, if they allow for internet connection at all. Internet access through commercial shops is concentrated in

⁷ Unpublished report on the Kothmale project; Tanya Notley, 2000.

⁸ Report on UNESCO Seminar on Integrating New and Traditional Information and Communications Technologies for Community Development held at Kothmale in January 2001; Ian Pringle (2001).

⁹ Results from a survey conducted by Tanya Notley and included in her report (unpublished) on Kothmale (2000). The survey employed a sample of 93 users of the Kothmale internet facilities over a two week period.

urban areas and until such time as the benefits are tangible, the cost is either prohibitive or a sufficient deterrent to put off new users. If the internet line at Kothmale is down, the staff to go to Kandy, over an hour away, to check email.

Kothmale employs a microwave lease-line for its connectivity. The 64 kbs dedicated connection has worked extremely well for the station's three computers and it offers unexplored potential for remote access from other sites, however Kothmale's connectivity model is not as yet sustainable. The equipment and installation costs were high, but were borne by the project and its partners as a capital investment. Of greater concern are the operational costs. The internet line was down for most of 2001 because the original agreements for the project expired and no one was in a position to pay the costs or renew the agreement.

While the roughly USD 300/month needed to keep the line up is not necessarily a prohibitive cost, it represents a major investment for an outfit like KCR. The absence of a government subsidy would require shifting the model from the public sphere to one that at least has some commercial component. From the outset, access for users has been free of cost and this has unquestionably been a factor in whatever success the project has enjoyed. However, this type of access represents a major ongoing expense. Although the current trend in ICT projects is towards passing on access costs to users, in the case of Kothmale, this shift would change the nature of the project.

Asking people to pay for internet use or computer lessons is very problematic. Unless you can find a way around charging for access, unless you can find a way so that the really poor kids — who ARE the majority of users, the ones who walk 7 kilometres to school rather than pay Rs 2 for the bus — are not disadvantaged by having to pay, then the project FAILS.¹⁰

Although the internet line was restored in November 2001 through an agreement between SLBC and UNESCO, it is unclear for how long this arrangement can be sustained. KCR must begin to look at the issue of sustainability and weigh the cost of different options, including changing the means of connectivity or generating revenue through the substantial technical capacity that it provides. KCR could for example offer dial-up accounts and email addresses to groups, businesses and individuals who can afford pay for these services and thereby continue to subsidise access by members of the community who cannot.

The Kothmale model has strong points in terms of the non-technical aspects of access. Community radios like Kothmale are community centres. In addition to the radio services, Kothmale has one of the only phones in the immediate area. The station receives regular input from the community in the form of letters, calls and drop-ins. The station's listeners club attracts a sizeable and representative number of community members and clearly demonstrates a sense of community ownership. People know and trust Kothmale — it's the local radio station. Basing internet access at the radio station itself has been an asset in terms of access, especially the profile and interest generated by the radio browsing programmes.

Between 150 and 250 people in a typical two-week period use the two computers at the radio station making the internet room a fairly busy place. Access is free and the station has tried developed a supportive system and environment for users including girls who form a minority amongst users. For those who use it, the Kothmale access centre is a unique resource in the area. 71% of participants in a survey used the internet for the first time at Kothmale and for 82% of users the Kothmale computers represents their only access.

¹⁰Tanya Notley: Observations about the Kothmale project in email correspondence (2001).

Testimonial

I first came here to serve tea for those who came from the University of Colombo to set up the Internet. They motivated me to surf the net and within few weeks I mastered the Internet and now I can find what ever I want within a few minutes. Now I am very popular in school because I help my fellow students to prepare their school projects. Recently there was a special meeting convened in school to appreciate what I have done using the Internet and computers to improve our studies. I have developed a web site on scouting and I hope to develop this, as there is no information in Sinhala about scouting. I have decided to make my future with computers. It is a hard way ahead. I am the youngest of a family of ten but with these computers I have some hope.

Andrew Udaya Kumara – Student

The greatest success in access has been with youth. In a sample survey, 95% of users were between the ages of 10 and 25 with 60% between 15-20. Although the majority are still boys, gender equity in access has improved. In the first year, there were very few girls using the centre and it took a door-to-door campaign to increase the number of girls and young women participating in orientations, training and using the computers. In a sample survey after two years, 41% of users were female.

There has been success with access by local businesspeople and community leaders, professionals and students. These examples (described in the accompanying box) are indicative of potential innovation arising from access to information and on a small scale, a contribution to economic development.

Success Stories

There's the story of the baker who got new recipes from the internet, the family funeral business that networked themselves into being a major player in Sri Lanka's mortuary business and the identification of export marketing opportunities for jaggery, a local palm treacle product. There's the blacksmith and the bamboo artisan who researched and benefited through new craft techniques and the environmental group that grew out of the networks and resources of the internet accessed at the radio station. There are students who have gotten opportunities for further study through electronic networking and youths who have gotten jobs as a result of their ICT skills.¹¹

This level of impact is extended and reinforced by the presence and popularity of the radio browsing programmes. Although access is concentrated with youth, there are wider benefits for the community-at-large through extension media like radio and newsletters and significantly, through teachers and peers in schools.

¹¹ Examples are culled from the Report on UNESCO Seminar on Integrating New and Traditional Information and Communications Technologies for Community Development held at Kothmale in January 2001: Ian Pringle (2001); unpublished UNESCO documents relating to the replication of the Kothmale project (2001).

Testimonial

I listen to KCR regularly and when I came to know that there is an Internet facility, I thought that I should show it to my class. I brought my class to KCR and it was unbelievable to find out that the facility could be used free of charge. My class and myself became frequent visitors. I make it a point to come every Wednesday to collect information for my classes and higher studies. My favourite topic of the Internet program is the use of English. I download learning games & adopt them to suit radio. The kids pick up very fast. Fortunately, most web sites on the Internet use simple English. We are people, who did not even have a typewriter to use, now we are surfing the Internet. It is a dream come alive for me. I have motivated a large number of teachers and students to use this facility. The greatest thing about this is the friendly environment and courteous staff. The doors are open and the staff is ever ready to help.

Kumuduni Aponso – Teacher

There is certainly motivation in the community to learn about and to apply ICTs. In a two-week period, 56% of users travelled over 1 hour to use the facility, a further 33%, over 30 minutes. Over 90% of these users listen to the radio's internet programmes for more information.¹²

The access point at the radio station itself has worked well, but with only two computers in an accessible but not otherwise busy location, direct access to the internet is limited in the greater community to those who have the time, the funds and the freedom to travel to the radio station. The technical model for the project has room for two or more remote access sites using the station's server computer and lease line as a mini-ISP. There are internet computer terminals set up in both of the towns in Kothmale's broadcast area which would considerably expand access if they were connected, however these remote access centres have never been fully operational due to logistical problems and bureaucratic barriers. As with other aspects of the project, Kothmale's technical set up has greater capacity for access and potential for revenue generation than is being used.

CONTENT

The project's design recognises the need for content that is appropriate to local interest/needs and in languages they can easily use. That rural residents have a right to be digital consumers is one issue; another is that rural participants in the world-wide-web need to be authoring their own materials in their own chosen fashion. The Kothmale project has tried to address content issues in two ways: 1) through the creation of an online database and 2) by promoting local web content production.

The project's first website, largely intended to address the first issue through the creation of an appropriate information database, has had problems with the partnerships intended to support it. Maintenance of the site in Colombo disconnected the content component from other activities at the station itself. Updating information quickly became a problem. Without appropriate systems and administration, the station has unable to jointly manage the site. Although content was developed for the site, the link to local issues and needs was tenuous. Most of the site was produced in English and has there were no

¹² Results from a survey conducted by Tanya Notley and included in her report (unpublished) on Kothmale (2000). The survey employed a sample of 93 users of the Kothmale internet facilities over a two week period.

mechanisms for direct feedback or input from the rural aspects of the project to the site managers in Colombo. The information was overused and quickly became stale.

Staff at the station launched a second website. While it does not have the same level of organisation or planning, kothmale.net, has succeeded in getting local content on the web addressing interests if not needs. Young people who two years ago had never used a computer are now creating web pages and using a variety of sophisticated digital production tools. Within a year, over thirty web pages had been designed at the station, including content on local history, culture and religious traditions as well as poetry and artwork.

Staff, volunteers and their efforts, not the least of which is the radio browsing format, have mitigated the language barrier by providing necessary support: guiding basic skills development, clarifying terminology, assisting with navigating technologies, directing users to appropriate websites, and providing interpretation and translation. 47% of users surveyed accessed the web for information gathering or educational purposes and 22% accessed the centre for more general computer training.¹³

Testimonial

I own a small tea plantation and as that brings me some income, I can devote some time for KCR as a Tamil presenter. First of all, I learned a lot about tea plantation in other countries from the Internet. An Indian web site visited advised that tealeaf should not be crushed because it degrades the quality of the final product. I checked it with the experts and they confirmed it. I was able to share this information with my listeners. I also worked with Tanya, Kothmale's volunteer, on a story for our website on kitul juggery. I did this because I see an export potential for kitul juggery and honey for our community.

Jeyaraj Pavithran – Tea plantation owner

Local solutions to developing content and extending access to it are ongoing and innovative. In November 2001, KCR launched a small production centre in one of the nearby towns. Volunteers are being trained in the use of computers, internet, writing and layout. The project will publish a regular newsletter to further extend the reach of Kothmale's internet services with goals of greater awareness, access to web-based information in local languages and a greater capacity for the community to manage its own media.

ORGANISATIONAL CAPACITY AND PROJECT SUSTAINABILITY

Unfortunately, the project guideline that stipulates a limited concern for breakdowns and a free hand for users, was not applied to the overall technical set-up and management of the project's systems, and the Kothmale station was never fully put in the driver's seat. While the project appears to be sustainable in terms of local human resources, there has not been the same degree of success at an organisational level.

Management and coordination between the project's key partners has been an evident factor in the limited use of potential and sustainability of the project. Although the partnership of government agencies in broadcasting and telecom along with Colombo University's computer department was a defining factor in the project happening at all – a remarkable achievement in a country with very tight government control of information and communications – it has complicated day-to-day logistics. Components such as the lease-line connection, website maintenance and technical administration were intended to be managed from Colombo and as a result of the distance and the lack of urgency – out of site, out of

¹³ Ibid

mind – success at the organisational level, in terms of a model for sustainability and in other areas has been limited.

The reasons behind the problems are largely organisational and of course financial. With bureaucratic central agencies like Sri Lanka Telecom and Colombo University responsible for key elements in the project design, the radio station itself is disempowered to deal with technical and organisational problems when they inevitably arise.

While the station does have capacity in many areas, the project has not provided the necessary mechanisms to allow KCR to further develop its organisational capacity and apply it to the internet aspect of its operations. For example, the station did not have the passwords for the project's main website as this aspect was to be managed from Colombo. Staff were therefore unable to update information, upload individual web pages or manage the site locally. As a solution, they launched a separate website. While this course improved the situation in most respects, it is a limited solution in terms of the project's greater objective to develop a database of locally relevant content.

The station unfortunately had no such home grown solutions when computers broke down in the first year or when the lease-line was cut off at the end of the project's two-year agreement with the telecom authority. Nor was Kothmale in an independent enough position to seek the funds elsewhere or re-orient services in such a way that they could generate funds to pay for the line. Poor rural communities, with a lack of political power and limited influence, are unable to leverage the financial support they need and limited in their abilities to plan and implement self-reliant alternatives.

Local communities cannot start or fully develop the infrastructure of an ICT project without financial inputs and other support from national/international centres and yet the service, which is the full expression of the project, cannot fully develop or sustain itself without ownership and overall management by the local community. Just as local capacity must be developed in terms of skills and awareness of potential ICT benefits, so must organisational capacity be developed in order to make services sustainable.

Local capacity

- a. One of the most significant achievements of the Kothmale project, the addition of computers and internet to KCR has increased local capacity in numerous key areas:
- b. The radio station itself is better equipped generally in terms of communications and in organisational use of computers. Certainly, by regional standards, Kothmale is a computer literate and internet-enabled rural organisation.
- c. The radio station is now a multimedia communications centre with a variety of services. KCR is more relevant with a much greater degree of community participation. When the internet connection is in place, hundreds of people come to the station every month. In addition to a listeners club, KCR now has an internet users club.
- d. The staff and volunteers have considerably increased skills: the most obvious are in terms of research, electronic networking and computer-based content production both for the web and for print. Kothmale's staff and volunteers are probably the most ICT enabled radio staff anywhere in the country, certainly outside, but perhaps even including the capital.
- e. Community members are using the internet access centre and have new/improved awareness and skills through direct and indirect access to computers/internet. Of rural Sri Lanka, the area around Kothmale likely has the highest per capita rate of email accounts.
- f. Youth are a notable sub-group, especially as a cross-section of the community: not only in terms of their assimilation of skills and correlating benefits, but also in

terms of empowerment and outlook. Education and employment opportunities are a frequent application of the Kothmale facilities.

g. While difficult to measure how widespread and still more difficult to assess impact, the community as whole has significantly improved access to information, both directly and indirectly: school teachers use it for teaching specifically about ICTs and to get information for other topics; students, farmers, business people and organisers use it for research and networking. There is clearly potential for community innovation based on access to new information.

h. Relative to other rural areas in the country and in the subcontinent, awareness of ICTs and what they can do is extremely high. Although there are no statistics, Kothmale's community of listeners are probably the most aware in South Asia.

i. As a radio station, KCR is a better information provider through the addition of the internet. Kothmale's programming has been significantly enriched. All programmes benefit to some extent and the station has introduced a new brand of radio programme that interfaces the world wide web with local listeners. Radio web browsing has exposed listeners to what the internet is and what it can do.

CONCLUSIONS

The purpose of the Kothmale project was to demonstrate a model for a constructive application of ICTs in a rural environment, to show that rural residents can innovate and benefit by access to internet-sourced information and that access to ICTs will empower rural youth. There is good quantitative, qualitative and anecdotal evidence to suggest that the model is effective this respect, certainly it has demonstrated its potential.

Kothmale has laid the groundwork for the local community to use ICTs for a variety of purposes, including economic improvements, the development of new skills, networking and of course for entertainment and enjoyment.

Kothmale's experience also demonstrates the value of converging localised media services and centres, in this case, using community radio as a model and a base for rural ICT application. This success is especially evident in terms of raising awareness, overcoming language barriers and extending the reach of the internet through radio and in particular the innovation of radio web-browsing.

Assessing impact is difficult. This aspect of evaluation needs far greater attention in ICT projects and experiences. Throughout the project, a number of efforts, including monitoring, focus groups and a survey, were made to study impact. These efforts make it clear that no dramatic change has taken place, but rather a slow qualitative change has begun to emerge, starting with subgroups of the community-at-large. The initial sign of this process was a dramatically increased awareness of the benefits of new communication technology.

Testimonial

I noticed through the Internet that there was a heavy emphasis at the global level on the environment. Also at the local level, there is a pressing need for reforestation. I got to gather with another friend and we stopped all our work and surfed the net day and night to find out how we could form a NGO, we communicated hundreds of E-mails. Green Lanka Nature Conserving Association was the outcome. Now we are a very active NGO. We have undertaken reforestation of more than one hundred acres. Mahen Wegodapola – Green Lanka NGO

The impact of initiatives like those in the Kothmale project is long term, in no small part because rural Sri Lanka is so far behind its urban counterparts. There is no question that the introduction of ICTs has an impact. In less than ten years, the internet has fundamentally

changed life for those who use it and has made a unique imprint on the nature of work and society for those who are directly or indirectly part of the so-called 'information age'. Although the signs may be somewhat ambiguous in this early stage, there is also no question that the Kothmale project is having an impact. Hundreds of youth have computer skills and knowledge about the internet; thousands in the community know what the internet is and what it can do. This is significant because it represents a foothold and foundation on which the Kothmale community itself can build.

The potential that the Kothmale model demonstrates however cannot be realised without addressing the limitations: the internet connection itself has been down for most of the last year, remote access sites using the station as a server have never been fully operational, content development is only a mixed success, direct access to the internet is not widespread. The greatest barrier to Kothmale making full use of the model is the lack of local control over the project elements, from the technical side of connectivity, networking and site maintenance to financial operations, wherein lies the potential for self-reliance. This is not to say that Kothmale does not need support, both financial and technical, however the station needs to be the centre of attention and squarely enabled as an organisation.

Although Kothmale remains an isolated case and the model has yet to be replicated either in Sri Lanka or other parts of South Asia, in all likelihood new initiatives inspired by Kothmale will take root in 2002 in Nepal and India. With the lease-line at Kothmale once again in operation, one can only hope that the model will be revitalised in Kothmale itself.

However alongside more projects and initiatives, there must be certain pre-requisite efforts made in several key areas. Detailed evaluations and impact assessments must be carried out as part of rural ICT projects. Similarly, research is needed on many fronts, including new technical models for connectivity, systems for community management of information and creative solutions for sustainability and means of self-reliance. In all cases, there must be greater sharing of information, evaluations, successful and unsuccessful practices amongst those with a direct stake in community ICT initiatives.

Greater cooperation and more constructive engagement is required between local people and organisations and centre support mechanisms and agencies that have the know-how and funds to support these type of projects. At the regional or even global level, the search for quick-fix formulas 'to bridge the digital divide' needs to be put to an end. Community ICT applications will have a higher rate of success if they are part of a cohesive strategy supported by international, regional and national policies that are genuinely interested and invested in empowering rural men and women, girls and boys to use ICTs in positive ways.

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