

IDRC Grant Number: 0501A5_L48

Name of Project: Piloting Mobile ICT Access Models

Research Institution: Kothmale Internet Listeners Club, Sri Lanka

Research Team: Sunil Wijesinghe
Station Controller
Kothmale Community Radio Station

Benjamin Grubb
Project Advisor
Kothmale Internet Listeners Club

Sujata Tuladhur
Research Fellow
Kothmale Internet Listeners Club

Robert Kirksaether
Content Developer
Sydney University of Technology

Natalie Wallis
Content Developer
Sydney University of Technology

Time Period: 15th August 2005 – 14th March 2006

Date of Submission: 5th April, 2006

Synthesis

The research being undertaken aims to provide a framework for extending the current model of community radio and multimedia centres to incorporate a mobile ICT unit that delivers cost effective access to relevant information and knowledge that can help alleviate poverty and isolation to remote communities in the developing world. This research contribution is being demonstrated to project partners, relevant Government agencies and NGOs to better understand the potential of mobile ICT solutions, specifically to explore new models of access to a range of locally relevant content.

An emphasis is being placed on the development of localised content both in terms of local language and locally relevant information. This involves the adaptation of the Digital Storytelling format to a Sri Lankan and regional context and distribution of multimedia content utilising new media technologies such as the internet.

The goal of the proposed project is to develop a portable multipurpose telecentre to provide ICT services to otherwise inaccessible communities within the Kothmale region. This innovative approach will provide a cost effective model for access to global knowledge resources and will facilitate the exchange of local knowledge, culture and experience.

There are a growing number of models both in existence and in development that seek to bridge the 'digital divide' and engage marginal or excluded communities in the 'knowledge economy' by using new technologies and specifically the Internet. This initiative aims to harness the potential of new technologies and find solutions through the following goals:

- Develop an appropriate access model for rural and geographically remote areas to obtain ICT services.
- Publish localised content that is specific to the community needs and provides an avenue for discussion and dialogue in native languages via the internet.
- Provide cheap and alternative methods of communication within and between communities.
- Allow access to information and knowledge that can improve the lives and livelihoods of individuals and the community as a whole.
- Reduce the feelings of isolation and promote interaction with the broader Kothmale community.
- Enhance economic development and alleviate poverty through educational and economic opportunities.
- Identify new ways to generate wealth and provide new markets and distribution channels, reduce transaction costs and aggregate demand and buying power.

The research problem

Extending the role of community radio and telecentres to deliver the advantages of Information and Communication Technologies (ICTs) directly to the village level. By taking access directly to the villages and presenting it to users in a familiar environment, the technology is made less daunting. Those who are unable or unwilling to travel large distances due to economic constraints can also benefit from the experience. With the assistance of trained operators, the barriers of language and illiteracy can be overcome. Moreover, the objective of the project can be focused on those sectors of the community marginalised through gender, caste, ethnicity and other factors that make participants feel they have no proper place in ICTs and ICT initiatives.

The majority of work thus far has concentrated on the development of an appropriate model for mobile distribution of content. This model is nearing completion and will be refined over the next several months. The need for developing local content will be explored in the next phase of the project.

Research findings

Ethnographic Action Research that has preceded the development of the prototype access point has identified a variety of factors that hinder the delivery of knowledge and ability to access the Kothmale Community Telecentre facilities. Some of this information has been summarised below with a more detailed and comprehensive analysis to be delivered with the final report.

Transportation

With limited local transport infrastructure and an unreliable and overcrowded bus system researchers highlighted this as one of the major contributing factors that limit the accessibility of the centre. Both users and staff of the centre rely on the bus network and this restricts the opening hours of the centre. There are many instances of members of the community walking large distances to access the resource. One such individual walks approximately 26km on a near daily basis. Often women find that the lack of a reliable and safe public transport system impacts further on their life as they are less able or willing to travel alone, particularly after dark. Often the demographic most likely to use the training and telecentre facilities, children and youth, have limited time due to school and other extra curricula activities. This results in the centre and its training programs being overcrowded on weekends.

Cost

The centre has been heavily subsidised from both government and non government institutions with regards to utilities, office space, equipment and connectivity. However these programs are relatively short lived and to create a sustainable future the centre must charge fees for students to attend training programs. Even when these costs remain low, many of the communities in the area can still not afford to access these services. The centre is implementing a program whereby researchers identify these communities and can offer heavily subsidised or free programs to the poor. The course fees obtained from the regular training program support this. Another initiative being investigated is a voucher system where the mobile access point can deliver vouchers underwritten by the government to villages and individuals that can be redeemed for services and training at the centre.

Relevance

When interviewing and surveying the community one of the common themes expressed related to the relevance of technology, particularly the internet and computers, to the community outside of the children and youth demographic. Adults found that learning was no longer necessary for them as they were established in their lives and already had an income. Concern was limited primarily to school age children at an O/A level and parents were most willing to pay for training programs at this time in the belief that it would assist in their children's employment opportunities.

Localisation

The level of internet content available in Sinhalese is very low and what is available is tailored to the informational needs of the urban elite in Colombo. The need for local content 'producers' is apparent and also indicative by the experiences of Kothmale Community Radio. Interestingly the minority Tamil population provide a disproportionate number of feedback – in the form of postcards and telephone calls – received at the station. While the Tamil programming accounts for approximately 10-20% of the total, more than half of the correspondence received is in relation to these programs. Addresses of listeners who have written or joined the Listeners Club have been collated for use in future research and surveys.

Access

The regulatory framework surrounding spectrum allocation and the use of wireless 802.11x technology in Sri Lanka has caused significant problems and it is planned to collate this experience for distribution to other community based groups and NGOs planning to utilise this technology.

Project implementation and management

The project faced a number of early setbacks relating to the acquisition of a license to broadcast using wifi technologies. While this application is still pending the project has successfully adapted to CDMA technology. This is not ideal as the network is not owned by the community; however an agreement has been made with a commercial telecommunications company to provide access to their network free of charge. So in effect it has caused a minimum of difficulties to the projects implementation. The issue of regulatory control over spectrum is of a major concern to researchers and significant advocacy has been undertaken to help resolve this situation.

The other major development outside of the initial proposal occurred when implementing the design of the Mobile Access Point. It soon became apparent that the effectiveness of the proposed Kothmale vehicle was limited due to its regular usage for administrative work and that the vehicle itself was not owned by the Kothmale Internet Listeners Club. To compromise, project researchers sought additional funding to acquire a vehicle and the ongoing operational costs. This has given rise to the 'etuktuk'.

The research focuses on a portable design that overcomes the issue of mobility by taking ICT resources to the doorsteps of the community. This is being accomplished via a tuk-tuk or three wheeled motorcycle, a favoured form of transport common throughout South Asia. The etuktuk is equipped with its own source of electricity that provides power to a computer, printer, scanner, internet enabled CDMA telephone, amplifier, externally mounted speakers and radio production studio.

With the etuktuk due for completion and launch in late April the focus of the projects operations have been largely with capacity building of the Kothmale Community Multimedia Centre facilities and staff. A number of content production workshops and training have taken place and more are planned for the future. Partnerships have been formed with the Sri Lankan governments ICT Agency and the telecentre itself has been relocated to a larger building and its equipment and services upgraded. Researchers and staff of the telecentre have assisted in several regional conferences where they have shared their experiences and gained important knowledge and skills from their counterparts in the UNESCO supported Community Multimedia and Learning Centres throughout South and South East Asia.

It is hoped that project funds can be utilised to strengthen the services offered by the mobile access point. The revised budget has allocated funding for relay equipment and an antenna to enable live radio broadcasting from remote locations and a multimedia projector to facilitate workshops and training to a larger number of people when located in remote areas and villages.

The Project Advisor will remain with the project for a further three months and this has been adjusted in the budget accordingly.

Research to date has indicated the need for more facilities to assist in the production of local content. This has resulted in a further revision of the initial budget to allocate funds to develop a digital content creation lab.

Canadian nationals have assisted in this project and researchers are grateful for the advice of both Mr. David Walker of the Commonwealth of Learning and Mr. Dan McGarry a Canadian volunteer based in Vanuatu. Both individuals have been of assistance with general enquiries regarding their respective expertise namely radio and ICTs.

Project outputs and dissemination

- A workshop was conducted on the Ethnographic Action Research methodology, Open eNRICH and e-journalism. Participants came from various community and regional radio stations throughout Sri Lanka. With guest lecturers from Nepal, UNESCO and PANOS South Asia.
- Researchers attended a regional gathering of UNESCO supported Community Multimedia and Learning Centres from South Asia and South East Asia in Chennai, India in October 2005. They received training on Ethnographic Action Research and presented the activities relating to the center and this project to attendees of the conference.
- Project Researchers attended the OURMedia conference in Chennai, December 2005 where they presented a paper on the project entitled '*Mobility and Access – Taking Internet to the People*'.
- The project featured on a German TV Program *Neues*, broadcast in November 2005 in France and Germany on 3sat.

- The Project Researcher conducted a Digital Storytelling workshop for participants from regional CMCs in Buddhikote, India in February 2006. Local researchers attended the workshop and are now planning to implement similar content creation workshops at the Kothmale Centre. The DVD of the content produced at this initial workshop has been distributed to a variety of NGOs and government organisations.
- Two Australian volunteers will be joining the project in April 2006 for a 10 month period. They have been sourced through the Australian Youth Ambassador Program and will be working primarily with local content creation for the network.
- The Open eNRICH content management system was successfully translated by project staff and has since been adopted by the Sri Lankan governments Telecentre network and was launched nationally on the 17th of March, 2006.
- Local volunteers at the station successfully designed and implemented the Sri Lankan governments Telecentre website <http://www.nanasala.lk> This site provides a direct gateway to the Open eNRICH software.
- Local volunteers at the station successfully designed and implemented the project website <http://www.etuktuk.net> (incomplete but viewable at time of writing)
- With the resumption of Internet services local researchers have resumed radio broadcasts using the radiobrowsing format. A new program covering ICTs has been developed.
- A variety of articles have been developed and published on the Open eNRICH network in both Sinhalese and Tamil languages.
- Local researchers have been involved in the process of applying for additional funding and have been encouraged to apply for funding for future projects. Several proposals have been submitted and are awaiting a response.
- The eTUKTUK will appear at the UNESCO supported World Press Freedom Day in Colombo, 1-3rd May 2006.

Capacity-building

Researchers have been working closely with the Kothmale Internet Listeners Club to ensure sustainability of the centres operations. The findings of which are summarised below:

Social Sustainability

- Contribute to the development of the community through providing appropriate access and information through the use of ICTs.
- Cater to local economic, sociological and psychological factors to provide access to new technologies.
- Demonstrate and contextualise the relevance and application of ICTs to the realities of the community.

- Provide access to relevant and appropriate information to members of the community i.e. exam results, agricultural information, market prices.
- Cater to the individual needs of minority and target groups within the community i.e. women, Tamil, Sinhala, children, youth, people with disabilities.
- Provide opportunities and experience to staff and volunteers of the centre to assist them with practical skills and knowledge that can lead to employment.

Financial Sustainability

- Gain financial independence from donor bodies and government institutions under the guidance of the Kothmale Community Internet Listeners Club.
- Operate on a not for profit basis that allows for the provision of discounted services to target and minority groups within the community.
- Ensure financial accountability is obtained through transparent and independently audited accounting practices.
- Create employment and appropriate financial rewards for researchers, volunteers and management.
- Utilise existing infrastructure to generate income and put aside funds to update and maintain equipment.

Institutional Sustainability

- Provide leadership and initiative to balance the various needs of all stakeholders and partners.
- Ensure equitable, transparent and fair operations in all undertakings of the centre.
- Build unity and cooperation through open communications and encouraging the involvement of all partners.

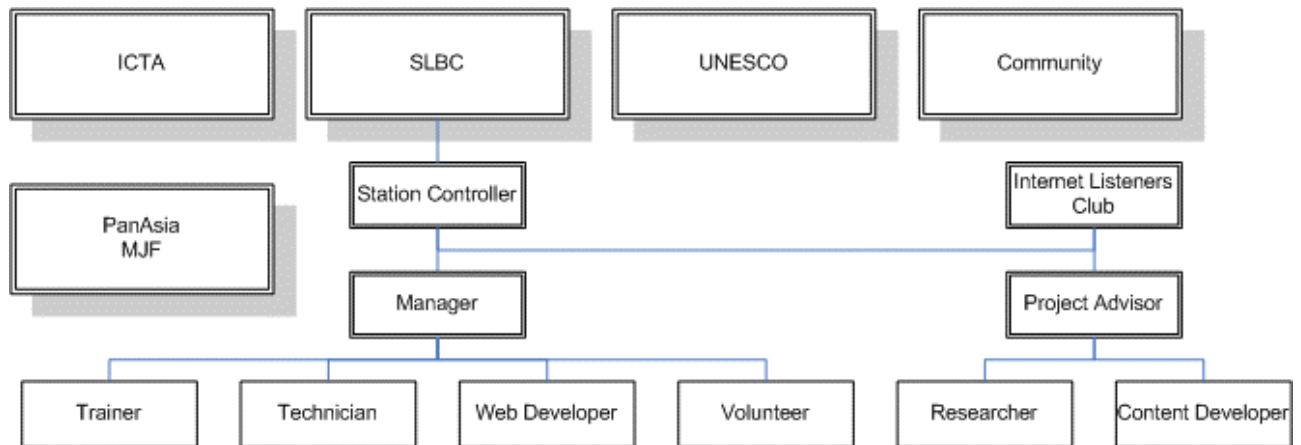


Figure 1. Diagram showing the hierarchy and stakeholders of Kothmale Community Multimedia Centre 2005/2006.

Researchers have also assisted in the capacity building of the centres telecentre facilities. The centre joined a national network of telecentres supported through the Sri Lankan governments Nenasala (Rural Knowledge Centre) program in late 2005. This resulted in an upgrade of the facilities including 4 new desktop computers, scanner, photocopier, printer and VSAT internet connection.

Training has been a focus of the project activities to date. A workshop was held for local researchers and staff that introduced participants to the Open eNRICH software, e-journalism and the Ethnographic Action Research Methodology.

Digital Content creation skills have also been a focus. Local researchers recently attended a workshop on Digital Storytelling in Buddhikote, India. This format is now being introduced to the centre and a series of workshops are planned for local participants to generate local language multimedia content to be distributed via the etuktuk and Open eNRICH. Similarly staff of the Community Radio Station are undergoing training in digital audio editing software. The studio is being upgraded to digital equipment and radio programs are being converted to 'webcasts' for distribution over the same networks.

Perhaps one of the most understated results of the project has been the capacity building of the Kothmale Internet Listeners Club itself. The formation of the Board and registration as an Independent Community Organisation has enabled the centre to operate outside of the restrictions often associated with the bureaucratic framework of government organisations persistent in Sri Lanka.

Impact

With the launch of the Mobile Access Point approaching it is believed that the full impact of the project is yet to be realised however to date significant capacity building and empowerment has been witnessed of project staff and participants of the content creation workshops. The reintroduction of internet to the centre has resumed broadcasts of the radiobrowsing program. This radio format addresses local issues relating to development and education while drawing on the resources available online and contextualising them for local listeners over the radio.

Similarly the upgrading of facilities at the centre has resulted in resumption of the computer training program that is introducing youth and adults from the community to new technologies that would otherwise be inaccessible.

A voucher program is to be introduced to encourage members of marginalized social groups to attend these training programs. These will be distributed by researchers who can visit these target communities with the Mobile Access Point.

Recommendations

Since the initial project proposal was very infrastructure heavy, many of the purchases necessary for establishing the project were required in the early stages of implementation. If the project was to be implemented solely with funds from IDRC then this funding would have needed to be available from the beginning.

If the project researchers preparing the proposal were aware of the staggered payment of project funds this could have been planned from the outset. Alternatively, exceptions to this schedule could be made. Project staff have had several emails go unreturned when communicating with administrative staff.