Knowledge through Cables: is it for Everyone?

A South Asian Case Study

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Abstract

The *digital divide* has become a sub-dimension of the economic gap existing between more developed and less developed countries. These inequities also exist within societies, particularly in the poorest ones, where the access and property of new technologies is concentrated in the highest socio-economic levels. In this context, several action plans have been brought forward aiming at breaking the *digital divide* and contributing to the construction and the strengthening of the information society in all regions of the world.
Among these initiatives, the installation of telecentres, particularly in poor rural areas, is one of the main ones. Although telecentres are classified into several groups - according to their public character, type of management, services offered, etc. - there is certain consensus in defining them as "physical spaces that provide individuals, community groups and organizations with public access to the information and communication technologies in order to contribute to their educative, personal, social and economic development".
To simply provide free or low-cost access to ICT is not enough. Successful realization of telecentre projects depends mainly on carrying out their installation and development, with and for the community, thus respecting its specific demands. But in reality how much community-based are telecentres? Is there enough space for social inclusiveness and grassroots innovation, or are most of the activities focused on economic profit?
The aim of this study is to analyse different telecentre models and their impact on some local communities in Sri Lanka and India.
We have identified five distinct models of telecentre organization, conceptualized as: The Temple model, The Family model, The Entrepreneur model, The Village leader model and The Company funded model. The major

strengths, weaknesses, opportunities and threats are outlined using the SWOT-analysis. We have also identified the dynamics that could lead to a real social appropriation of technologies, given the fact that telecentres do not promote human development and democratization by themselves, but are means to enhance capacity building and empowerment of the intended target groups. If telecentres should provide access for everyone, they need to adapt to the users knowledge needs using local languages and to provide specific support for the underprivileged groups such as the poor, the old, the disabled and the women.

Keywords: telecentres, ICT4D, Sri Lanka, India, e-learning, inclusion

1. Introduction and Aim

1.1 Telecenters in the current global framework

The poorest 40% of the world's population account for merely 5% of the global income. On the other hand, the richest 20% account for more than 75% of world income. According to the latest UNICEF Report (*The State of the World's Children 2009*), around 30,000 children die each day quietly in some of the poorest villages across the world.

Around 3/4 of rural population lives on less than $1 a day and is also suffering from malnutrition. 7 out of 10 of the world's hungry are women and girls, as reported by the UN World Food Programme (*Hunger and Markets, World Hunger Series 2009*). The World Health Organisation 2008 Report states that people with disabilities make up more than 10% of the world's population and they are mostly unable to access healthcare services, information, care and support. Around the world an estimated 600 million people live with disabilities, the vast majority in low-income and middle-income countries.

Given these alarming and worrying statistics, it's evident that too many people worldwide lack economic, social, cultural, political, digital access and that some measures for their inclusion have to be taken up.

Inclusion or the lack of it has been the overarching theme in contemporary discourse on development. There is unanimous agreement within the international community – governments, international organizations, corporate bodies, and NGOs – with respect to the fact that no development is true development unless all forms of divides are addressed and unless all have equal access to development.

The equity principle is enmeshed in the United Nations' Eight Millennium Development Goals, adopted in the UN Millennium Summit 2000 by world leaders. The targets and measures outlined in the Millennium campaign seek 2015 as the target year. It vows to free all men, women, and children from abject and dehumanizing conditions of extreme poverty, at least by half.

Traditional efforts by governments, corporate bodies, civil society organizations, and others have only partially addressed the issue and if no serious actions will be initiated, the Millennium Development Goals Campaign will most probably fail.

In such a controversial framework, Information and Communication Technologies (ICTs) are often suggested as tools to bridge the divide and include the excluded with the hope to significantly improve their livelihood opportunities through provision of information and enhancement of capabilities, skills and confidence.

In particular telecentres, with a focus on using ICTs for promoting community, economic, educational, and social development, are expected to be a measure to widen access, promote inclusiveness - even in the most dispersed rural areas - and empower local people. Although there is still not enough research or evidence collected to state this with certainty, the proponents of telecentres (or public access centres) believe that telecentres ensure that knowledge and opportunities catering to the needs and demands of the rural and urban poor will markedly change their future. Although the telecentre movement globally is in different stages of maturity, there are a number of narrative stories of empowerment that support this view.

Numerous experiments have in fact shown that innovative solutions and localised initiatives combined with knowledge sharing among peers have shaped up a new era for the telecentre movement. With this perspective, telecentres across the world are expected to significantly change the socio-economic dynamics of a given society provided they are equipped and responsive enough to render the locally required services. Not only women, but also other underprivileged sections of the society including physically or intellectually impaired people, and of course the poorest economically backward section of the society, could benefit from their use now sweeping across many nations.

1.2 Telecentres for rural development

To understand various aspects of inclusion, one has to try and understand the kinds of exclusion that exist in various communities and societies. Even able bodied people are often excluded because of low literacy levels, language and access constraints, geographies or distance from the economic or infrastructure development zones. While it cannot be proved that creating necessary institutional linkages will de facto create inclusion, several interesting efforts have been made by various civil society organisations, micro-credit institutions, and international agencies to catalyse linkages in order to promote an inclusive growth opportunity for the telecentre practitioners.

Telecentres, by design, are targeted to bridge the *digital divide*, of which the rural-urban duality aspect is the most evident one.

Significant contribution of telecentres can also be seen in including the rural people in the knowledge economy both directly and indirectly. Telecentres render important life skills that help communities to get employed in the economy. The indirect impact, on the other hand, goes much beyond employability and participation in the economy; improvement in self-esteem and the feeling of being part of a larger global world can help people to get rid of technophobia and play an active role in the society.

Telecentres can create a new community technology access ethos that can have a transformative experience, with the help of facilitators and operators.

Among many of their uses, telecenters can be employed for:

-*education:* computers and mobile phones today are considered to be repositories of online learning and telecentres are increasingly used all over the world as distance and vocational education training centres.

-*financial inclusion:* if rural communities begin to access the financial instruments like savings, loans, banking, insurance, etc, through the innovative use of ICTs the objective of banking the unbankables is achieved

- *access to wider markets and better prices:* telecentres can be used to enhance the economic returns for micro finance activities by providing access to national/global markets at better prices.

-*inclusion of women:* it is widely estimated that women make up the majority of the world's poor — owing to unequal access to resources and opportunities, discriminatory land and inheritance laws, and unequal distribution of household resources. In order to ensure that telecentres do not create a new gender divide and include women, the design and access to content, services and support must be sensitive to the cultural and social needs of women, and their time availability.

-*inclusion of people with disabilities:* Internet and ICTs have in many countries created new possibilities for persons with disabilities. The hearing impaired have got new platforms for communication and many blind and visually impaired are now using emails and search engines in their daily life. To include people with disabilities in the ICT revolution is not only to promote human development, it is also in the long run profitable for the economy in a country.

1.3 Aim

The aim of this study is to analyse different telecentre models and their impact on the local communities in Sri Lanka and India.

2. Research Methodology

The methodology used in this paper is to be classified as case study research (Benbasat et al. 1987, Yin 1994). Telecentres in Sri Lanka and India are analyzed and compared by their strengths, weaknesses, opportunities and threats. Furthermore different ways to organise and manage telecentres are described and discussed. Interviews, questionnaires and observation methods were used as means for collecting information.

In Sri Lanka the following four cases were selected: 1) Buddhist telecentre in Balaharuwa, 2) Hingurukaduwa telecentre, 3) Etampitiya telecentre and 4) Kandiyapitawewa. In Uttar Pradesh, India, our studies are based on two case

studies: 1) the Rural Community Telecentre in Kumhrava and 2) the E-Choupal Telecenter in Aligarh district. A study about critical issues for succesful telecentre operation and organization based on these cases has been published earlier this year (Gaiani, Hansson, Meegammana, Mozelius, 2009).

In this study a mixed methods approach was used; informal as well as more structured interviews were conducted on site. Questionnaires were handed out, translated in the Sri Lankan cases into the mother tongues of Sinhala and Tamil and in the Indian case in the local dialect. Observations of the activities and facilities were done, and both in Sri Lanka and India a team documented the visits and interviews with video camera. The table below summarizes the cases and the data collection methods used.

Table 1. Overview of cases.

Case	Data collection methods	Field studies by	Year
Telecentre in Kumhrava, India	Interviews, Observations, Questionnaires submitted both to users and owners	Silvia Gaiani	2008
E-Choupals, India	Interviews, Observations, Questionnaires submitted both to users and owners	Silvia Gaiani	2008
Buddhist telecentre in Balaharuwa, Sri Lanka	Interviews, Observations, Questionnaires in Tamil and Sinhalese submitted to users	Niranjan Meegammana Peter Mozelius Henrik Hansson	2008
Hingurukaduwa telecentre, Sri Lanka	Interviews, Observations, Questionnaires in Tamil and Sinhalese submitted to users	Niranjan Meegammana Peter Mozelius Henrik Hansson	2008
Etampitiya telecentre, Sri Lanka	Interviews, Observations, Questionnaires in Tamil and Sinhalese submitted to users	Niranjan Meegammana Peter Mozelius Henrik Hansson	2008
Kandiyapitawewa telecentre, Sri Lanka	Interviews, Observations, Questionnaires in Tamil and Sinhalese submitted to users	Niranjan Meegammana Peter Mozelius Henrik Hansson	2008

3. Organizational Models

In Sri Lanka we visited four telecentres with three distinctively different organizational models, which seemed adapted to the local capacity and accepted by the users. One model can be labeled as the *Temple model*, which is the Buddhist telecentre in Balaharuwa. The ICT equipment and telecentre space were located in the Buddhist temple, which had the benefit of already having electricity and voluntary staff interested in knowledge and teaching. The young monks were clearly enthusiastic about the new opportunities for their own learning as well as for the renewal of the centers services. Obviously there were no female teachers, however girls were also included and equally received the telecentre service. The monks used internet broadcasted sermons as part of the religious education. The old head priest was supportive, but not actively involved in the use of ICT. This model is sustainable, but there are no female role models as managers of the center and in other villages with a large Muslim or Christian population, such a solution may be less accepted.

A second organizational model in Sri Lanka, can be labeled as the *Family model* (the Kandiyapitawewa case). This was a telecentre sustained by an older couple and their grown up children. The family had allocated two rooms in their house to accommodate the telecentre. The old couple was not actively using the ICT, but their children and teachers travelling long distance were teaching the local youth in the community. This is another model keeping costs for physical space and facilities low. However, even though we did not find evidence for it in this case, such a model can shift the power balance in a community. One can imagine that some benefits are attached to the investments of computer infrastructure and internet satellite discs.

The third case in Sri Lanka (Hingurukaduwa) was also located in a family house. The key person and operator here was a young professional, who also worked at a bank in a nearby village. In this model they were also starting to use mobile computers, which could be lent from the telecentre, but they had not decided how to distribute the few mobile computers available. The system

supporters were to provide the best achieving students with mobile computers so they could use them at home. However to include also low achievers would be beneficial for the community, maybe by means of a rotating scheme.

The fourth case Etampitiya, in Sri Lanka, was a telecentre run by two young well educated males. We labeled this model as *the Entrepreneur model*. One of the managers was an ethnic Singalese and the other one an ethnic Tamil. They demonstrated a fruitful collaboration and multi lingual services in a country which has been tragically plagued with the long lasting ethnic conflict.

Singalese as well as Tamil children were using the telecentre. The managers were innovative developers of software and planning to broaden the poor financial base of the telecentre by setting up a business providing low cost computers to the regional market. Both of them had grown up in the area and had return to serve the village needs after their education in the city. However given the poor revenues they could make by running the telecentre, they may not be able to sustain a living.

Despite the Sri Lankan Free Education Scheme that was introduced in the country as early as in 1945, the university model has remained highly elitist. The actual intake for 2009 is 19,650 and the number of students left out of the system is more than 100,000.

> *"Therefore the need of the hour is to find an alternative path to get a tertiary qualification; this could be done only through the use of Distance Mode. Today, Sri Lanka, at this given point in time, has to ensure a more efficient use of public resources to open more opportunities for higher education. (Warnapala, W. 2009, p 80*)

In India, the telecentre in Kumhrava was launched in January 2006 by the Department of Journalism and Mass Communication of the University of Lucknow together with a local NGO, Bharosa. Infrastructures in Kumhrava were good enough to allow the establishment of a well functioning telecentre

and some people in the village, though extremely poor, were computer literate. The overall literacy rate in Kumhrava is 65%.

The telecentre was set up in the premises of the house of the village leader by the village leader himself. The location has had an impact on the users: those who trusted him were more willing to participate in the training activities and to use the telecentre's services: those who didn't like him, refused to use the telecentre. We labeled this model as the *Village leader model*.

The telecentre is non profit and mainly intended to provide information to the rural villagers for free, but the initiative is quite inequitable because users are overwhelmingly male, in the higher socio-economic categories and in the young to middle age grouping.

Although some of the services are relevant to the poor there are preferred ways for them to obtain information like face to face communication with government officials, radio and newspapers. It could be said that the telecentre hasn't properly addressed the needs of rural poor and it's not financially sustainable.

The second Indian case study, E-Choupal in Aligarh district, has been launched by the ITC - Indian Tobacco Company- that has established 5,100 computer kiosks (eChoupals) in 5 states covering 31,000 villages and serving 3.5 million farmers. We labeled this telecentre organization as *the Company funded model.* Aligarh is a district in the western part of Uttar Pradesh that has developed into a commercial center of an agricultural region which produces wheat, sugarcane, cotton, corn, barley and millet.

While the rural telecentre in Kumhrava is non profit, this telecentre model is profit making for ITC. As a demonstration of this, community involvement and ownership are pretty limited. Farmers do not pay for information, but may purchase inputs from ITC or market their produce via ITC.

This initiative serves mainly better-off male farmers, and has been criticized for not involving women and lower caste farmers.

Much of the information is considered to be highly relevant, otherwise farmers would not participate, and ITC would not be able to make a profit. However, it is relevant primarily to commercially oriented farmers growing particular crops with too little attention paid to education.

4. Strengths, Weaknesses, Opportunities and Threats of the 6 Telecentres surveyed

Based on the earlier case studies in Sri Lanka and India we will now summarize the strengths, weaknesses, opportunities and threats (SWOT analysis) in the organization models in the two countries (see table 1 and table 2 below).

Table 1: SWOT analysis of the four telecentres in Sri Lanka.

Strengths	**Weaknesses**
• Support by local organizations • Digital content in local languages • Governmental support • Young users and enthusiasm • Mobile experts support team • Regional Telecentre collaboration	• Uneven content quality • Lack of computers • Lack of educated teachers • Bandwidth problems in the access to content • Need of greater physical space and more furniture • Do not include adult farmers sufficiently
Opportunities	**Threats**
• Scalability • A plan for island wide coverage • Singhalese – Tamil ethnic integration • A bridge to higher education • ICT access for people with disabilities • Social meeting points • Entrepreneurship, new services and spin off companies • Increased cooperation with universities • International cooperation and development of services • Investment in women empowerment	• Lack of sustainability • Second class education • Problems with the English language • Brain drain, the educated and telecentre managers may leave the rural community for better opportunities in urban settings • Poor salaries for telecentre operators

Table 2: SWOT analysis of the two telecentre cases in India

Strengths	**Weaknesses**
• Support by local organizations and good welcomed by the rural residents • Governmental support • Young and adult users with enthusiasm • Fullfill the information needs of the villagers • Villagers are more aware (prices of crops, weather forecasts, general information, education)	• Language barriers: websites are in Hindi but not in other local languages • A tradition of gender and class inequality • Uneven content quality • Lack of computers • Lack of educated teachers • Bandwidth problems in the access to content • Need of greater physical space and more furniture
Opportunities	**Threats**
• Scalability • Local villagers would like to have more services addressed by the telecenter: land registration certificates, e-medicine • A bridge to higher education • Social meeting points • Entrepreneurship opportunities arising • International cooperation and development of services	• Lack of financial sustainability in the case of Kumhrava Telecentre • Lack of access for people with disabilities • Second class education • Problems with the English language • Brain drain, the educated and telecentre managers may leave the rural community for better opportunities in urban settings • Poor salaries and too high initial investment for telecentre operators

5. Conclusions

Telecentres have a relatively short history and the path to development and empowerment is still long and full of obstacles. Although Sri Lanka and India are quite different in terms of gender equality and class/caste division, the case studies presented above demonstrate that despite the different organizational models, rural telecentres can be viable means for providing information, raise awareness among people and provide opportunities for community and self empowerment. The major threats are the financial sustainability and the insufficient content in the local languages which could hinder effective development. Another major issue is represented by the exclusion of some groups of the populations: in Sri Lanka few middle aged and older people are involved in the telecentre activities, while in India the poorest and the women are the most excluded ones. Therefore, still much needs to be done in terms of inclusion and governments should play a major role in this. We have identified five models to organize a telecentre:

- The Temple model

- The Family model
- The Entrepreneur model
- The Village leader model
- The Company funded model

Each model has its pros and cons. A particular model favors more or less some groups in the community and excludes others, not necessarily deliberately. In order to include all groups in a society, specific actions needs to be initiated for the under privileged such as the poor, the old, the disabled and the women.
In a nation-wide perspective it is valuable to use different organizational set ups in order to maximize local resources and influence. One model does not fit in all socio – economic and cultural contexts. Alternative models may inspire changes and new initiatives in the development of telecentres. These models can be used in other countries when planning or analyzing strengths and weaknesses of telecentres.

6. Future Research

The analyzed telecentres represent only a limited sample in the variety of models developed in Sri Lanka and India.
In order to elaborate a more comprehensive analysis it would be necessary to monitor and investigate a wider variety of telecentres. A more complete framework of telecentres' organization would include an analysis of other management solutions, as for example commercial telecentres, university funded telecentres and tax funded telecentres.
We are planning in the coming months to conduct further studies to investigate other models and evaluate their impact on the local information needs and on people's empowerment.

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