PROFILES AND EXPERIENCES

ICT Innovation for Poverty Reduction

PROFILES AND EXPERIENCES IN ICT INNOVATION FOR POVERTY REDUCTION

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UNESCO

FOREWORD

Promoting the free flow of ideas and maintaining, increasing and spreading knowledge are all central to UNESCO's vision and mandate. They are essential elements of economic development, good governance and democracy. Information and communication technologies (ICTs) are unique tools in our efforts to build equitable information and knowledge societies. Their impact on our world is hard to over-estimate.

UNESCO's programming emphasises an approach to ICT and development that is multimedia and multipurpose. ICT encompasses the full range of information and communication technologies, including radio, television and print media as well as the ever expanding array of computer hardware and software, telecom devices, internet and portable digital media. UNESCO's community multimedia centres and networks combine new and traditional technologies, like radio and internet, in innovative ways, linking global knowledge resources with locally suitable media. Multipurpose community telecentres reinforce the need to use ICT as a development tool that crosscuts sectors like education, science and culture.

To meet the parallel needs of innovation and research in applying ICTs for poverty reduction, UNESCO has facilitated a network of ICT initiatives in South Asia. Working with a wide range of partners, a series of grassroots access sites were established in 2003 to test different models for ICT usage by the poor, in particular women and youth. These sites feature a variety of ICT configurations, tools and strategies in different social and geographic contexts. An innovative research methodology using applied ethnographic tools has been developed and applied within each site in order to better understand and document the experiences and impact of these initiatives. This publication profiles the different initiatives which represent varying 'models' of ICT interventions for poverty reduction.

UNESCO's role is to innovate, pilot and document new approaches, to stimulate debate and catalyse change. Our work should inspire exploration and discussion and facilitate the exchange of ideas, experience and skills. I would like to take this opportunity to acknowledge the contribution of various people in this endeavour. I thank Don Slater and Jo Tacchi, the lead researchers of this programme. I also appreciate the efforts of the project team of UNESCO, New Delhi, under which this network and research were initiated and guided. I particularly wish to thank Wijayananda Jayaweera, the original project team leader, Tarja Virtanen, team member and Communication and Information Advisor in Asia-Pacific, Ian Pringle, project coordinator and Savithri Subramanian, research coordinator. I also sincerely thank the teams at all the different sites and the communities who actively and enthusiastically participated in the initiative.

Prof. Mohsen Tawfik
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PREFACE

UNESCO has a long history supporting information and communication development in Asia. A considerable emphasis is being placed on the potential of new information and communication technologies (ICTs) to positively impact on efforts to reduce poverty. We feel that it is important to critically investigate this potential and using appropriate research methods, to contribute to our collective understanding of how ICTs might be useful tools for the poor.

The initiative *Information and Communication Technologies for Poverty Reduction* was developed under UNESCO's crosscutting theme on the eradication of poverty, especially extreme poverty. From the outset we have looked at poverty as a complex reality, one in which powerlessness and voicelessness have been identified by the poor themselves as being central to their experience.

Our aim has been to combine research with technological and social innovation to develop ICT models that empower people living in poverty, keeping in mind the wide range of factors that contribute to their poverty: marginalisation, oppressive social norms, lack of responsive and accountable governance, et cetera. We believe that the present effort is unique in its combination of rigorous and responsive implementation and the development of an integrated research approach.

The network of research and innovation sites is spread across nine locations in South Asia including India, Sri Lanka, Nepal, Bangladesh and Bhutan. The sites present a wide range of demographic, geographic and social situations. The focus is less on technology itself and more on its practical application and usage by the poor, in configurations that combine different media, that link technology to social mechanisms and that are suitable, responsive and shaped by specific local needs and circumstances.

The primary concern is with the poor, especially the extremely poor and socially marginalised groups. In this context, poverty is defined not so much by economic parameters and not even necessarily in tangible terms. Poverty here connotes a lack of voice and empowerment. The research has facilitated the identification of these groups in different sites, assessments of their needs and defined and redefined appropriate and responsive strategies and solutions through the process of action research.

When we began this work, we asked ourselves "If technology is the answer, what is the question?" Our investigation has been framed around assessing whether and in what ways and under what circumstances ICTs are useful tools for the poor. This publication is the second to be derived from this work. The first was based on findings from ethnographic action research conducted over the course of the first eighteen months. The present volume profiles some of the interesting initiatives undertaken in this project, delineating several significant aspects, such as the media combinations and the costs involved as well as some preliminary insights concerning impact.

As we move further, we aim to enhance the value of ICTs for the poor and poverty reduction strategies through ongoing innovation, rigorous research and networking to share findings, analysis, experiences and ideas.

The research approach has been developed and the process guided by Jo Tacchi of the Queensland University of Technology and Don Slater of the London School of Economics. Many people have worked hard to see these initiatives up and running and to profile these for sharing in the form of this publication – our field researchers, project coordinators, lead researchers at the LSE and QUT and the team at the UNESCO New Delhi office. Our thanks to everyone who has worked with us and contributed to this unique effort.

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This book is dedicated to the many girls, boys, men, women and groups whose efforts, cooperation and contributions are at the centre of this work.

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Women mapping information-communication networks in Baduria: Women are the key stakeholders of Nabanna and are involved in all aspects of the network. Participatory research continues to play an integral role. 'Information agents' identify topics and circulate information resources working with 'information groups' in their neighbourhoods. Mapping has been a unique and effective tool in understanding information flows in the local areas, the relationship between information, women and poverty, and for planning the development of their local information network. Photo credit: Nabanna / Change Initiatives

NABANNA INFORMATION NETWORK FOR WOMEN

At a glance

Women in Baduria are building their own local information network using innovative social methods and technological tools. A core group of some 60 information agents collect and disseminate information using a range of new and traditional media including computers, internet, content management software and a tabloid newspaper as well as face-to-face meetings. Each information agent manages an information group of approximately ten women in her own neighbourhood. Together the women use media technologies and social networks to focus on their own lives and local communities, the information, communication and other skills they possess, and those they wish to acquire and develop.

Location
- ○ Baduria Municipality & Jagannathpur Gram Panchayat[1]

    North 24 Parganas District, West Bengal, India

Participants
- ○ Information agents (60) are women between the ages of 18-40. They are students and housewives who are economically poor though many have a good level of education. Information agents interact with a further 600 poor women in neighbourhood information groups.

Facilitating agency
- ○ Change Initiatives (Kolkata)

Initiated
- ○ February 2003

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[1] Gram panchayats in India are village-based, popularly-elected governing bodies.

Background
Concept

Women in many rural and semi-rural areas such as Baduria do not have structured local communication networks or access to spaces in which to share information and develop knowledge, barriers that compound poverty. Nabanna is about women building a community network that facilitates local information and communication with the ultimate goal of reducing poverty. It seeks to empower poor women by providing them with access to information and communication skills, tools and resources linked together in a network of information agents and groups that extends access and overcomes barriers of affordability, education and literacy.

By combining technological and social networks, Nabanna is designed to reach a large number and cross-section of poor women in a given locality and provide effective local collection and diffusion of information and knowledge in Bengali – the local language in Baduria. The network enables the women to participate in identifying, planning and creating content – sourced from the internet and locally – discuss and exchange it with other women through off-line group activities and the Nabanna tabloid and at local information centres using a range of hardware and content solutions.

Location

Baduria is a 134-year old municipality situated around the river Icchamoti in North 24 Parganas district of West Bengal, India. The centre of the municipality lies some 50 km west of Kolkata, about 18 km from the Bangladesh border. In an unusual configuration that has been significant in Nabanna's work, the municipality is made up of four distinct areas, separated physically and structurally by panchayat-village lands. Though only 50 km from Kolkata and eight km from the national highway, Baduria is 'off the beaten track'.

Context

The Baduria municipality consists of 17 wards. Each ward in turn comprises up to ten neighbourhoods. Most parts of the municipality are more 'rural' than 'urban' in character. Baduria is thus a large area, with a total population of 47,388.

Nabanna added Jagannathpur Gram Panchayat in its network by establishing a centre in the panchayat office in August 2004. The panchayat-village area is widespread with a total population of 14,780, located adjacent to and in-between areas of the Baduria municipality.

Table 1	
Expenses (March 2003-2004)	**USD**
Equipment & facility: desktop, laptop and handheld computers, printers, digital camera, portable hard drives	8,500
Connectivity: dial-up	750
Publication: Nabanna tabloid	1,600
Personnel: coordinator, researchers (2), trainers (2)	7,800
Research & field costs: transportation, accommodation	2,300
Running costs	3,200
TOTAL in US dollars	**24,150**

Despite their close proximity, the four municipal areas (Rudrapur, Arbelia, Taragunia and Punda) and the adjacent village areas have developed distinct identities. Poor communication between these geographically different areas (in terms of transport, exchange networks, social relationships and so forth) and the resultant isolation are notable features that have been significant in the gradual development of the Nabanna network.

Portrait

Conceived by Change Initiatives, Nabanna was operationalised with the support of UNESCO. In early 2003, Baduria was identified as the pilot site through meetings with the municipality and a process of regular field visits and discussion and interaction with local women. In-depth research fed into building and organising the network through group discussions, interviews, home visits, training and evaluation.

In April 2003, the municipality provided space for a small ICT facility and training centre – now the network 'hub' – in the municipal administration building in the centre of town; a second smaller centre was established in November 2003 in a local school in another part of the municipality; and a third centre was started in August 2004 in an adjacent panchayat-village area. At least one more centre is planned.

Nabanna is a Bengali word literally meaning *first rice*. Rice is more than a staple in Bengal – it tends to symbolise agriculture and food. 'Nabanna' is also the name of the festival that occurs when rice is harvested in November. Like many resources, even rice is at times out of the reach for some people. Nabanna's vision is to energise the community in Baduria by empowering poor women to organise and use – to 'harvest' – information. Change Initiatives has set up a local network that combines social and technological elements.

The social network

During the start-up phase, two to three women from each of the municipality's 17 wards and adjacent panchayat-villages were identified as 'information agents'. Some 60 information agents participate in ongoing information and communication training, forming the backbone of the network. Each information agent leads an 'information group', which in turn is made up of ten or so women whom they recruit from their local neighbourhood area. Information groups comprise some 600 women in total, meeting on a weekly or bi-weekly basis.

A Nabanna 'information agent' using the computer at the Arbelia ICT centre: The space for the centre and the basic outfitting like electrical wiring are provided free of cost by the Arbelia school (as with Nabanna's other centres). Applications like MS Paint, which were introduced to help the Nabanna women learn computer skills, have been taken up with great interest. Drawings like the one displayed are an outlet for creative skills and expression, an unintended, though powerful outcome. Photo credit: Ian Pringle

Regular diaries kept by the women, about their everyday lives as well as on topics fixed by the Change Initiatives team, have been an important part of the network development process, particularly during baseline research. Diaries have explored a huge range of topics – marriage, health, family life, education, employment, social norms, etc – and yielded a wide array of insights into information needs and usage.

Information agents animate and take notes on discussions that take place in their information groups, simultaneously identifying topics and feeding information on a gamut of themes that affect Baduria and local women. What emerges from analysis of diaries and discussion forms the basis for planning and developing content and information modules. The information gets channelled through the network in information group meetings, through regular and special training workshops and events and via the Nabanna tabloid – a bi-monthly Bengali-language newsletter circulated in the community.

The 60 information agents visit Baduria ICT hub on average twice a week for ongoing computer training and Nabanna activities. In batches of four, the women learn the basics of using a computer, beginning with simple software applications like MS Paint that help them to understand the language and layout of the computer. They have gradually built the skills to use other software including MS Office, internet browsers and the eNRICH content management system. They have simultaneously developed other skills and abilities like group networking and identifying information needs and sources. Through their own efforts, they have become part of the process of applying information within the Nabanna network.

Offline networking strategies like group meetings and diary production have established a strong research culture with outputs that feed into the development of information modules, the tabloid and a content management system[2].

The eNRICH software solution animates community participation and allows users to organise information and knowledge resources from local and non-local sources. To date, the focus of content research and development has been on livelihood, health and education issues; examples include linking local goods and service producers with potential markets in the network and developing and making available information and materials on anaemia and in support of high-school English schooling.

Box 1 : Project team

Change Initiatives (CI) has a small project team based in Kolkata. The CI field workers are known locally as the computer *didis* (computer sisters in Bengali). The local team consists of a manager at Baduria ICT 'hub' and four research assistants: all local women who have been trained in both research and ICT skills. In tandem with their research they are also responsible for managing all three ICT centres, with help from a number of local community volunteers.

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2 The eNRICH solution is profiled in Chapter 5

In Nabanna, the women have created a purpose-built local forum. They are now involved in researching and understanding the role of information and communication at their own local level and they are starting to explore new strategies, tools and possibilities.

Nabanna has made it possible for women to come together in an organised, informal, non-partisan way and to create spaces in which they share and learn, reflect on their lives and opportunities, use new tools and try out new ideas. In addition to computer training, diary writing and information networking, the activities of the network also have social significance: often isolated, resource-poor women have met, are learning new skills and networking. The presence of Nabanna centres and media themselves have opened up new, accessible, community spaces and opportunities. The network has spilled over into social events (picnics, Nabanna functions) as well as a few skill-based training courses for income generation.

The technological network

Box 2 : Media mix
○ ICT centres with basic facilities: 1-2 computers, printer
○ Laptop and handheld computers
○ eNRICH content management software
○ Participant diary writing
○ Nabanna tabloid newspaper: 1000 copies, bi-monthly, 2-colour, 8 pages, photographs, drawings and graphics
○ Telephone

The introduction of technology has been gradual and linked to the needs and circumstances of the women in and around the municipality.

Nabanna's first ICT centre was set up in two rooms in the municipality building in the centre of the main Baduria bazaar. One room contains two desktops computers, one printer/scanner unit, a dot-matrix printer and dial-up internet connectivity. The second, adjacent room is used as a meeting and discussion space. At the geographic centre of the municipality, the Baduria

An 'information agent' familiarises herself with a hand held computer: Portable devices like this handheld computer are useful in creating grassroots awareness and making first hand introductions for people with no exposure to new ICTs. Handheld computers make new technologies and content available to people in new ways, overcoming critical mobility, literacy and skills restrictions for poor women. Nabanna plans to use the devices in screening short videos, making educational materials available as 'take-away' information, and also in recording and transcribing inputs from the network's 'information groups'. Photo credit: Nabanna / Change Initiatives

centre is the main hub for the network where most of the organising and all of the training has taken place.

Two smaller centres, each with one desktop, a dot matrix printer and a telephone line, are designed to be nodal points primarily for women who live in the centres' immediate locality. The space is provided free of cost and the centre is the responsibility of the local information agents. The first of these access points was established in the Arbelia area in a small room in an unused part of the local school. The second centre was established in one room of the Jagannathpur Gram Panchayat building.

More localised facilities has meant an increase in the level of participation by women in the information groups who now have the opportunity to use the computers for themselves and take some training. Four to six women come to the Arbelia centre for an average of a few hours every day. As this centre is situated in a school building, students and teachers are also becoming part of the network. The centre is looking to paid services and community support to sustain operations.

Information agents spend at least two hours per week at one of the ICT centres. Ten to 12 women visit the main Baduria hub every day, four to six visit the Arbelia centre and eight to ten the Jagannathpur centre. In a typical day the Baduria centre is open from 11 AM to 3 PM.

Table 2	
Equipment	
Computers:	
Desktop: Compaq – PIV 1.8GHz, 512 RAM, 40 GB	6
15-17-19" monitor – Compaq	6
Handheld – ipaq 3850	3
Printer/Scanner/Copier – HP OfficeJet PSC2110	1
Dot Matrix Printer – Epson LX300	5
Modem	1
CD writer – Samsung	3
USD portable media – 128 MB	2
Webcam – Logitech	1
Media:	
Digital Camera – Sony DSC-P31 – 2 Mega Pixel	1
Software:	
Windows XP operating system	
Microsoft Office	
Microsoft Paint	
Microsoft MovieMaker	
Adobe Photoshop	
Adobe PageMaker	
I-Leap Bengali font	
Celcius Keyring Bengali software	
eNRICH	

People and physical places in the network are linked through a mixture of different social and technical elements. The information agents are the main link. They use new skills and ICT facilities in their roles as information agents among neighbourhood women.

Each of the centres uses the eNRICH content management system, with the database maintained at the Baduria hub with inputs from the smaller centres and from the Change Initiatives space in Kolkata. Information content and materials are shared between the centres using small portable USB hard drives between centres and made available to centre users through eNRICH.

Another vehicle that links the network is the Nabanna tabloid. The newsletter has been instrumental in building awareness of the network as well as a tool to share information. 1,000 copies of the tabloid are published once every two to three months, edited and printed by the Change Initiatives team in Kolkata with an increasing level of input by the local team, information agents and volunteers. Initially distributed for free, women now pay INR 1 per copy. Introducing a cover price has helped to cover some of the printing and production costs, and has reinforced the value of local ICT tools. Feedback suggests that one of the reasons for its local popularity is that it is explicitly for women.

The network has introduced both laptop and handheld computers, initially as a means to demonstrate ICT in a portable context, and with the intention of using them as 'last-mile' or 'take-away' elements of sharing information. Information agents have also made promising use of the network's digitial camera, both for still and video photography, indicating a strong latent potential for other types of content production.

Use of facilities

- **ICT facilities** are network centres; they are used for training, particularly in computer skills, and to access and work with information; the centres are also social hubs in the network, for informal interactions as well as other types of training, meetings, etc.

- **Desktop computers** are used mainly for training, sometimes for playing games, and as local skills develop, information agents are using eNRICH and other softwares to exchange information and create content; an additional computer, located in the Change Initiatives office in Kolkata, is used to search information, test software, especially relating to language, and to design the Nabanna tabloid.

- **Handheld (3) and laptop (1) computers** are used to demonstrate ICT tools to information group members and to introduce them to what computers are and how they can be used. The portability and touch screen functions are useful in raising awareness and motivating participation in the network.

- **Digital photography** is an ongoing means of documentation and an important tool in the production of the Nabanna tabloid. Nabanna participants are always very happy when they can see their own pictures. Many of the information agents have learned how to use the digital still camera. The camera MPEG function was used to create a short film on jute[3].

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3 The film was inspired during a visit by one of the lead researchers accompanied by a filmmaker and his gear. Information agents decided to use video to tell the story of jute, one of the traditional agricultural outputs of the area. The film traces production from cultivation to retail.

- ❍ **Portable hard drives** are used to transfer information and materials linking different centres in the local network and with the computer in Kolkata.
- ❍ **Printers and combined scanner/copier** units are largely used as a paid service, for instance printing bio-datas.
- ❍ **Easypen** is a delicate device with a tip something like a fountain pen used for illustrations in place of a mouse. A few of the information agents use it for designing graphics for the tabloid.
- ❍ **Telephone** is a useful communication tool for local researchers. Many of them use the Baduria centre's phone as their contact number; women keen to obtain information contact the centre through telephone. Use of the telephones is on a pay per use basis.

Participants

The information agents at the first level of the network's participation structure are generally students, average age 25, or housewives, average age 45. The average monthly income of the women's families is INR 1550 (about 35 USD). Education levels among the information agents tend to be higher than that of the information groups, with many holding BA and some MA degrees.

Many of the information group members have lower levels of education and literacy. Common income generating activities include knitting and weaving and also *bidi* (local cigarette) tobacco binding, often carried out by families. Their outlook on life is very much determined by the need for income and married women's efforts are focused on opportunities for their children.

Skills and interests

Nabanna has adopted learning-by-doing and peer-to-peer approaches to training in which the women learn new skills at the same time as contributing to the development of the network and content and training other participants.

The main focus of skills training to date has been on computer literacy. Many women in Baduria are motivated to 'learn computers' because they associate it with gaining employment. Computers are perceived as prestigious by the women's families who might otherwise seek to restrict their education – in favour of marriage and household chores.

Training begins with the basics: starting up and shutting down, how to handle the mouse and navigate around the computer's system. Participants practice and develop their basic skills using Paint, an easy visual software tool that allows trainees to gain confidence with the equipment. It is significant for new users to create something personal and tangible. To encourage trainees' creativity and production interests and to build the sense of a community network, Nabanna has also sponsored competitions, for example to design birthday cards, in which the winners receive prizes.

Word processing is central to 'learning computers'. Trainees start with MS Word Pad, graduating later to Word. With perseverance most of the information agents have become functional users of MS Word. They get maximum satisfaction in preparing their bio-data (resume), using different fonts and colours. They create their own folders and keep their own files. Trainees have been particularly excited by the calculative powers of MS Excel, amused

and intrigued when they see how easily accounting systems can be constructed using a specialised software tool.

Information agents have also learned to use the I-Leap and Celsius Key Ring Bengali language font software that allows users to type in Bengali using a special key-character layout as well as phonetically using the Roman alphabet and the standard keyboard layout.

Although formal skills training has been largely in the domain of computer and software skills, the network has also fostered new skills in writing and information literacy, understanding what information is, how it flows within a given environment like Baduria, and how it can be tapped for benefits.

Box 3 : User profile

Noorjehan

Noorjehan's family is not especially conservative, so when the computer centre was set up within the municipality building, Noorjehan was one of the first to apply. She took to computers like a fish to water and was soon able to master the basics of bits and bytes. Noorjehan has learnt computer skills well enough that she now teaches others. She grasped the Nabanna vision and mission including the ideas behind the research and is also working as one of Nabanna's local researchers.

When eNRICH was introduced as part of Nabanna's information network, Noorjehan was the first to upload information about her tailoring work and charges into the eNRICH local database. As her prices are considerably lower than market rates, many women in the network have placed orders with her. It was the first time that Noorjehan received orders from outside her neighbourhood.

Saswati Das

40-year old Saswati Das lives with her husband and her three daughters in Taragunia. She completed a homeopathy programme from Kolkata and practiced in Taragunia for some time, but was forced to stop due to pressure from her in-laws. Two of her daughters are mentally challenged. Though she has some work as part of government scheme, she spends more time with her cattle than in her job. It is not out of love for the animals, but more out of compulsion. She says that "as I am treated like the cattle, so it is best that I stay with them."

She started learning computers as part of the first group of trainees. Saswati is not brilliant in her handling of the PC, but she has become quite proficient in MS Word and MS Paint and most importantly, she never gives up. When asked why she is learning computers, she says: "I thought I had finished myself. Coming here I realised I still had a lot of potential. If I had the will, I could have gone places. Nabanna has given me the opportunity to learn computers, so in this era of vast progress in science and technology, I have rediscovered myself. I am thus always eager to come to the computer centre and wish my learning will be of use to people."

Insights
Research

The Nabanna network is very much the result of applied research. The network has developed gradually, beginning with and centred on the skills and capacity of the women involved. The ethnographic approach has allowed for a high degree of local participation and encouraged 'ownership' and at the same time produced research that has been directly applied in the development of the network elements. Ultimately, the goal is to build a network that can address local information needs in a sustainable manner.

Of all the research methods, the diaries kept by the information agents have been the most insightful and interesting. The information agents use diaries to jot down their everyday thoughts, ideas and observations, providing a window on the lives and thoughts of women in Baduria. They use their diaries effectively, noting down important points from formal and informal discussions. The diaries have been an important tool in understanding the local communicative ecology, identifying information usage and needs and in developing content, feeding both the network's information structure (categories, topics, modules, etc) as well as the Nabanna tabloid and the eNRICH database.

Research themes:

- ○ Role of ICTs in the everyday lives of participants
  - ◆ Participants' views and expectations of ICT; use of centres and facilities; How do Nabanna stakeholders see themselves in the community? How can Nabanna grow?
- ○ Information sources, categorisation, packaging and dissemination
  - ◆ Diaries (local source), internet (global), public/private sector (district/state/national); community tabloid; content management systems
- ○ Factors influencing the relationships between centres and local communities and users
  - ◆ Location and participation; community spaces; self-reliance and sustainability

Research methods:

- ○ Participant diaries
- ○ In-depth interviews with different groups in the network
- ○ Participant observation and field notes
- ○ Mapping exercises

Box 4 : Research sample

Field note: 9-8-2003

As Jhulan had already come to Baduria in morning, Suryatirtha and myself, came in the afternoon. Our first stop was the ICT centre. We went to see the progress of the work. There we found Jhulan and Shabnam on one computer fighting with eNRICH. After spending a few more minutes in the center we went to our apartment. After keeping our luggage there we went towards the bus-terminus.

(Yesterday the officer of the information and cultural ministry had called me up to enquire about Srabani Ghosh and Kaushiki Chatterjee. She had read about their incapability to continue further studies in spite of doing well in the high school due to financial constraints, in our newsletters. She requested me to gather information about their present condition and inform her. If everything goes right then she would plead to the chief-minister to let go the fees of these two students. I was excited to hear this. I had planned that today itself I would first visit Srabani.)

In the bus-terminus we met the head-clerk. After chatting with him we walked towards Anarpur. Srabani was sitting on the courtyard of her house. As soon as she caught my sight, she called 'didi'. I was a bit confused about her house but as she called me I was relieved out of tension. Her house comprises of two rooms made of mud and the roof made of tiles. As we went further we saw a plate full of rice on the floor. As soon as her father saw us he started to get busy about our sitting arrangements and snacks.

Contd... : Box 4

After we made him understand that we won't have anything he was pacified and said " Then I will go and have my food. I have just returned and taken my bath. I go out early in the morning and come back at 6 in the evening. This is my daily routine. I am working real hard so that my children can study and make a decent living other than selling milk like me." We then went inside their house. I asked about her engineering plans. It was quiet vivid from her looks that she has completely thrown away that idea. She now plans to study chemistry honours in Barasat Government College. But the admission fee over there is RS.2000, which is quiet a large amount for them. She is also tensed about the monthly fees. After knowing a bit more relevant information, which I have got to give to the officer, we came out of her house. As we were walking towards the bus stop we met Neelima, a stakeholder of that ward. After asking her to do a regular follow-up in this matter, I enquired that whether she will be able to take Srabani along with her to Bashirhat for a day if needed. She agreed quiet excitedly. We then came to the bazaar. After waiting for a trekker and a bus for a few minutes, we took a van and went to Rudrapur, which is a 20 minutes journey. The surroundings have been engulfed in darkness, but the dim moonlight was giving the atmosphere a serene look. We were going to Rudrapur to take the in-depth interview of Sita Deb. We reached the spot at around seven. Sita was waiting there with her cousin Lata. With the help of the torch we started to walk towards their house, (we were carrying our torch today). As we walked further we found in a verandah a few kids with their books sat encircling two to three lanterns. Lata then said that it is her grand ma's house and she will now teach them. Lata left and we moved on. Then we reached her house after a few more minutes. Of all the houses we have visited, her one is the smallest. When we had first come for survey we were astonished to see such a house. Nobody is going to believe it until and unless you see it with your own eyes. They don't have an electric connection, so we started to take the interview in the light of the lantern. As they have only one room her mother was sitting with us. As we were about to come out of the interview we heard a strange and loud sound. She told us that it would rain .in a few seconds it did start. We had no options but top wait at her place. As the road is muddy and very narrow and top of it is raining, it is simply impossible to walk with a torch and a n umbrella. We came out from there at around 8:30. On the way back, we stopped for a few seconds to chat with those kids, but they reminded us that rain may come again and it will then be impossible for us to return. In spite of our wish to wait for a few more minutes we had no option but to return. We came to the bazaar where we wanted to meet the local councilor about the Rudrapur center but he was not available. So we took a trekker and went till Andhar Manik junction. We went to Seema's house to see what she did the whole day. We then came to the bus terminus on a van. And bought our dinner. We then walked towards our apartment. We were really thrilled to see that power was still there. After keeping things in the apartment as we sat down to take rest, there was the power cut. We wrapped our day's work.

Information networking

Nabanna is about women creating and using a local information network suited to the needs and contributions of poor women. Content materials and systems are gradually emerging from a bottom-up process of information identification and categorisation that combines a range of local and external sources: *Who has what skills and who needs them? What constitutes a correct answer in examinations? What is the availability of blood and beds in various hospitals in West Bengal? What is anaemia and how can women prevent it?*

The network combines social and technological elements to maximise local participation and ownership and access and usage. On one side, the day-to-day interaction of information agents and groups, the focus on skills development, entrepreneurship and community-based organising aims to build a sustainable grassroots structure. On the other side, localised

centres, portable devices and a customisable content management system bring innovative, potentially powerful tools into the mix.

A continuous process of content creation is evolving in which the grassroots discussion and observation informs the sourcing, packaging, delivery and accumulation of content. As the network develops further and makes more links to specialised information providers (government, civil society, educational organisations, etc) more focused information modules on areas of greatest need – health, livelihood and education – will be structured and fed into the network using eNRICH, the Nabanna newsletter and both online and offline training modules.

Empowerment and expression

One of Nabanna's significant impacts is the sense of confidence and personal empowerment among the participants. From near invisibility in many cases, women report that they have gained respect in their families and local communities as a result of their new skills and activities – not just because they are able to use a computer, but also because they are now recognised as 'information agents'. Younger women feel they are able to approach the job market with greater confidence.

There has also been an emergence of solidarity among women. As they learn together, they discuss their problems, creating a sense of common cause and unity and bringing forth inherent and latent leadership qualities. Working with creative tools and media has motivated and reinforced self-reflection and expression amongst the women. Diary writing, the use of tools like the digital camera and handheld computers and applications like MS Paint and MovieMaker have been instrumental in the process of promoting voice and participation.

A network member takes a class on beautician skills: Some of Nabanna's most interesting activities have arisen out of the network's social rather than technical elements. The novelty of an open learning space for women, associated with both modern technology and self-development, has motivated new social activities, marketing linkages as well as courses enhancing vocational skills and income opportunities. The class on beautician skills was started with the initiative of some of the Nabanna network members and held in the centre's meeting room. Photo credit: Ian Pringle

Organising

With increased capacity and new spaces for networking over which the Nabanna women feel a clear sense of ownership, some possible routes to sustainability are emerging. Information agents are taking their skills and confidence from the centres back to their local neighbourhoods and in turn becoming teachers there. Information agents are now managing the Arbelia and Jagannathpur centres where they train other women in computing skills. The centres are charging for paid training and telecentre services like photocopying and printing.

The Nabanna network has supported the creation of new horizontal linkages across the community-at-large, connecting diverse and physically isolated areas of Baduria and facilitating new social connections and relationships, for example

connecting piecework embroiderers with small businesswomen. The network is perceived as a free, modern and innovative space, providing women with new opportunities and responsibilities and nurturing collective organisation and local leadership.

Livelihoods

Nabanna's overall strategy is to focus on critical areas that will take the network closer to its goal of empowering and enabling women to make an impact in reducing poverty through information sharing and cooperative organising.

There is potential for women in Baduria to link producers and markets and make productive information inputs to income generating ideas. For example, some women entrepreneurs in Baduria outsource embroidery work to other local women; however, this has not been publicised and so many women are unaware of this opportunity and entrepreneurs are limited to a small number of producers. Similar opportunities in desktop publishing and potential applications in agriculture and micro-credit have been identified.

The Road Ahead: Sustainability

Nabanna is predicated on building a series of interconnected relationships: between digital resources (like the internet and databases) and human intermediaries, between the information agents and their neighbourhood groups, and between the local Baduria network and other information providers and markets. Change Initiatives will continue to use ethnographic action research to further develop innovation and strategies to apply ICTs for poverty reduction.

Nabanna's approach to financial sustainability is based on local community ownership, expressed in the voluntary inputs of local institutions (the municipality, panchayat governments, schools, etc) as well as of the individual information agents and group members. Centres are beginning to offer more paid services and users are beginning to pay nominal access fees, which may formalise into some type of cooperative membership.

Box 5 : Partners & collaborators

Change Initiatives is a small start-up that has largely come into being through the Nabanna project. Change Initiatives' small size and the close-knit relationship among its core members extends to the network in Baduria instilling a sense of camaraderie, solidarity and common visions. The approach has translated into focused, effective decision-making and a clear vision, adapted and developed through a dynamic participatory research process, and put into place through a well-planned and methodical approach in which Baduria's women have always been at the centre. Contact Change Initiatives changeinitiatives@yahoo.co.in.

The **Baduria Municipality** is governed by representatives elected from 17 wards, each comprised of an average of ten neighbourhoods. The municipality provided two rooms in the main administration building in the centre of town for a small computer facility and training space, the Nabanna network 'hub'. The participation of the municipality as a partner was instrumental in the establishment and legitimisation of the Nabanna network, particularly during the start-up.

The **Arbelia J.V. High School** is the only higher secondary school in the Arbelia area of the municipality. The school has provided a small facility for one of Nabanna's ICT centres.

The **Jagannathpur Gram Panchayat** is governing body elected from 11 *Moujas* (villages) each of which is subdivided into 9 *Sansads*. The panchayat has provided a small facility for one of Nabanna's ICT centres.

TANSEN COMMUNITY MEDIA CENTRE

At a glance

Local youth from poor families are learning how to produce their own multimedia content using a range of online resources, digital tools and community media. The CMC combines a computer telecentre, audio and video production facilities and a local cable network enabling participants to use a mixture of technologies in the creation of local media content and programming.

Location
- ○ Tansen, Palpa District

  Western Region, Lumbini Zone, Nepal

Participants
- ○ 175 girls and boys (96:79), generally between age 16-20, especially from poor families and marginalised groups
- ○ 58 housewives, generally between age 25-45 from the town's 'middle class' and dominant caste groups

Facilitating agency
- ○ Communication for Development Palpa (CDP)

History
- ○ Production for cable TV dates to early 1990s; computer access and digital production facilities added in March 2003

Background
Concept

Poor youth in Tansen, especially youth from traditionally 'low' caste groups, have few opportunities for education, employment or expression. The CMC recruits and runs media skills building programmes for local girls and boys from poor families and marginalised groups. New skills and confidence enable the participants to create their own content for a local cable TV network. By providing access to computers, internet and email, the information and resource base of the youth and the CMC is expanded.

The process empowers participants to voice their perceptions, creativity and ideas in a relatively open community space. Computing and, even more so, practical media skills and experience are perceived as important and marketable, particularly given Nepal's growing local and national media environment. The programming contributes significantly to bringing more voices, issues, cultural forms and ideas into the community's local media space and communicative ecology. At the same time, it builds production capacity and increases community involvement in the CMC.

The combination of established local media like community TV with new technologies like internet opens up great possibilities to link small comparatively inaccessible towns and villages like Tansen to new global networks. New media are not only powerful tools for producing content they are also gateways to ever expanding information and knowledge resources.

Location

Tansen is a hill town in Western Nepal some 300 km or a full-day's drive by road west of Kathmandu. Once the seat of the Sen Dynasty, it is now the headquarters of Palpa District in Western Nepal. Perched on the rim of a fertile valley, Tansen is about 30 km into the Himalayan foothills and 65 km from Nepal's border with India.

One of the country's main highways linking the western *terai* flatlands to Pokhara and Kathmandu passes five kilometres from Tansen's main market making it a gateway to districts further into the hills. The district of Palpa is made up of 65 village areas governed by Village Development Committees (VDC). Traditionally, the area is known for folk music, brasswork and the Palpali Dhaka (handmade woollen fabric).

Context

The population of the Tansen municipality is about 25,000, and is a mix of ethnic communities and traditional caste groupings. Like the rest of Nepal and much of South Asia, a majority of the population are youth below the age of 18. The townspeople are predominantly Newar Buddhists and Brahmin and Magar Hindus. Though officially a thing of the past, traditional caste, trade and ethnic groupings are still a very strong part of Tansen's social fabric.

The economy of the district is built on agriculture and small retail business. Historically a regional centre, like many hill towns in the Himalayan belt, Tansen is increasingly isolated from the plains where growth, trade and mobility are higher. Palpa also faces the pressures of migrating labour and instability due to ongoing conflict between Nepal's government and Maoist insurgents. There are few local jobs or business opportunities through which young

people can hope to make a decent living and the situation is worse for the poor, women and people from marginalised castes.

Tansen has a reputed hospital and good educational facilities with several colleges and a number of institutes, catering to both Palpa and neighbouring districts. Literacy rates in the area are relatively high.

Tansen has an unusually wide range of local media for a relatively small and isolated hill town. Tansen's media mix includes three local FM radios in the town itself (all established in mid-2004), one more from nearby Madanpokhara village as well as a weekly community-oriented paper, two cable networks, a local television producer and the CMC.

Table 3	
Expenses (March 2003-2004)	**USD**
Equipment & facility: computers, digital video cameras, TV monitors, video card, portable audio recording kits, basic production equipment	15,900
Furnishing	600
Connectivity: dial-up	3,000
Personnel: coordinator, researchers (2), trainers (4)	5,000
Running costs	3,850
TOTAL in US dollars	**28,350**

Portrait

Box 6 : Media mix
❍   Computer centre for training and public access
❍   Digital audio-video recording and production facilities
❍   Local TV cablecasting
❍   Locally maintained website
❍   Online Nepali-language news magazine
❍   'TV internet browsing'

Cable TV started in Tansen in the early 1990s with the emergence of satellite and cable technology in South Asia, a combination that was to dramatically change the region's media environment and give rise to thousands of small, local cable operations. Video production and cable distribution grew in response to the absence of either Nepali language or local content programming available via satellite in the early 1990s. Over the years, programming has ranged from a few hours a week to a few hours a month, from live telecasts of dance competitions, sports activities, latest news reports and folk festival to weekly magazine shows complete with local news bulletins, features, interviews and music videos.

Communication for Development Palpa established the community media centre in early 2003 with a small computer network and basic digital production facilities. The CMC is located in a

small shopping mall, off the main market road in the centre of Tansen. It has grown into a series of small shops with rooms for computer training and public access, basic studios and production facilities, a tiny lobby and small kitchen and storage area.

Over the course of the first year, some 175 youth participants, mostly 16-20 years of age, were recruited and trained in video, multimedia and computer skills, a high percentage of whom now contribute as volunteers to an increasing range of local media programming. Some of them now hold jobs in local FM stations and other media institutions providing them with livelihood options.

Facilities

Table 4	
Equipment	
Computers:	
Desktop: assembled – PIV 2.4GHz, 1024 RAM; 80 GB	4
Desktop: Compaq – PIV 1.8GHz, 512 RAM, 40 GB	2
Desktop: assembled – PIV 1.7GHz, 256 RAM; 40 GB	8
Server: Compaq – PIII 1.26 GHz	1
19" monitor – Compaq	2
USD portable media – 128-256 MB	2
Inkjet Printer/Scaner/Copier – HP OfficeJet 33300MFP	1
Media:	
Digital video camera – Sony DCR-VX2000E – high end consumer quality + tripod	1
Digital video camera – Sony TRV-355E – mid-range consumer quality	3
Memory Stick Recorder + mic + headphones	3
TV monitor – Daewoo – 21"	4
Studio mics – Shure SM58	3
DVD video editing card – Pinnacle DV-500	1
Online video mixer – Monarch FX Creator	1
Audio mixer – Mackie	1
Video capture card – Monarch	1
Software:	
Windows XP operating system	
Microsoft Office	
Microsoft MovieMaker	
Microsoft Paint	
Cool Edit	
Adobe Premiere	
eNRICH	

Participants

In its first year of operations, the CMC focused on poor youth and their families. The CMC's training programme emphasised the participation of girls, achieving a roughly 65:35 ratio with boys, and has proactively recruited youth from poor families and marginalised caste groups. Approximately 15 per cent of youth trained in the first year are from so-called 'low' caste groups.

In the second year, based on demand and as part of a strategy to offer paid services, the CMC has trained 58 housewives, generally from the town's middle socioeconomic bracket.

Skills and experience

Participants go through two to three months of training in batches of 30-40, learning both computing and media production and journalism skills. They plan and produce their own multimedia programming, using digital video cameras and audio memory stick recorders and production software like Microsoft MovieMaker and Adobe Premiere, Cool Edit and Audacity. Their productions are part of a weekly TV show called the *Local Programme* cablecast Saturday nights 8:30-9:30 PM and repeated on Tuesdays 2-3 PM to some 1200 households in the municipality and adjoining rural areas.

After one year of youth training programmes, the CMC began designing new training programmes for specific groups, for example housewives, school students, school teachers and campus degree lecturers, with the aim of increasing their access to information available on internet and services like email and chat. In demand due to the dramatic increase in FM radios in Tansen and neighbouring areas, new training programmes are also being offered in audio production for radio.

Box 7 : User profile
Sripal and **Rampal** are cousins from the traditional shoemaker caste, which because of the association with feet and with animal hide has traditionally been considered as 'untouchable caste'. Recruited in the first batch, Sripal and Rampal are two of the CMC's most promising trainees. They quickly mastered the computing and video production skills taught in the basic curriculum and have gone on to learn advanced digital production applications like Adobe Premiere. They have contributed a number of features to the *Local Programme* and since Sripal took over the regular feature on community activities, townspeople regularly come to knock on the door of his home to inform him of local happenings and events. Some time back, the owner of a cable network in India recruited and offered both Sripal and Rampal jobs to help start up and produce a local cable programme in Gorakhpur in Uttar Pradesh. Although they went to Gorakhpur, they returned back to Tansen after less than a week because they were not happy in a big Indian city in the plains.

Local researchers conduct a household interview in Tansen: Qualitative methods, such as household interviews, are the ethnographic action researchers' main tools. Insights from the research help to locate and shape the intervention better within the larger socio-economic context, particularly in the selection of participants and the ongoing development of training curricula. Research helps the CMC workers to better understand the experience of poverty in Tansen, a critical perspective for an initiative that aims to empower poor youth and identify ways that ICT can contribute to fighting poverty. Photo credit: CDP

Programming and content

The CMC's flagship production is the *Local Programme*, a twice-weekly one-hour show made up of 15-minute student features, an entertainment segment that alternates between folk and pop music and a round-up of community events and local activities, meetings and different programmes. Features and the community activities are the exclusive responsibility of the CMC's youth participants and they collaborate with CMC staff for the entertainment segments.

Working in teams and taking different roles, participants produce short features. Two girls with promising skills have started an interesting series of programmes they call *Path of Life* featuring episodes on different local vocations, most of them part of traditionally low-caste trades such as shoemakers, metalworkers, carpenters, barbers and tailors.

Similar features have been done about local street hawkers and the changing nature of tailoring as a result of TV-influenced fashion. Other programmes have looked at the state of the municipality's roads, explored different aspects of local culture, featured ideas for income generating activities and advocated on behalf of the local environment through programmes on garbage, pollution and preserving local fresh water springs, health and hygiene. In addition to student productions, volunteers had produced some fifteen 10-15 minute features between May and August 2004. About 25 volunteers have been involved in making programmes.

Table 5		
Nepali Name	**English Name**	**Description**
Haamro Sadak	Our Street	State of the municipality's roads
Jeevanko Goreto	Path of Life	Shoemakers' skills and profession Potmakers (metal workers) skills and profession Carpenters' skills and profession Tailors' skills and profession Barbers' skills and profession
Haamro Sanskriti	Our Culture	Local Tansen culture
Phohor Maila	Dirty Garbage	Garbage, pollution and Tansen's local environment
Dhunge Dhara	Natural water taps	Preserving traditional water sources
Silai Katai	Cutting & Stitching	Changing nature of tailoring trade with influence of TV fashion
Sthaniya Gatibidhi	Community Events News Segments	Inter-caste marriage of a CMC volunteer Raising guinea pigs to sell as pets Workshop on growing coffee School results World Environment Day Human rights training
Rochak Prasanga	Interesting facts	A series featuring internet sourced stories and information

With a more reliable internet connection in 2004, the Tansen CMC is increasingly able to explore ways to bring information from the world wide web into their local media channels. *Rochak Prasanga*, meaning 'interesting facts', features just that by exploring and searching the internet and then presenting a regular short feature for the *Local Programme*.

Direct access to the internet is opening up new ideas and spaces for exploration. After a computer training programme for 37 housewives, a handful of women started using email to keep in touch with family members abroad and searching the internet for new recipes and hair styles to put to use at home and in small businesses. To address the lack of good materials available in masters-level programmes, the CMC is introducing a specialised course in searching and using internet for local campus lecturers. New programmes are being introduced for school students, school teachers, local NGO and INGO workers.

The CMC has introduced a new programme called *TV Browsing* in which local youth invite guest experts to surf the web with them on camera, simultaneously translating and interpreting internet-sourced information and showing local viewers – the vast majority of whom have never heard of the internet, let alone seen it – what these new technologies are all about. Viewers can request the CMC to feature particular topics and websites allowing them to surf the internet on their televisions.

The CMC has also established an informative website about Tansen and in 2004 began working with Rural Development Palpa (RDP) to put their weekly Nepali-language magazine, *Gaaule Deurali*, meaning 'village meeting place', online.

Insights
Research
In Tansen, the ethnographic action research approach was particularly instrumental in the CMC's process for recruiting participants from Tansen's poorest groups. Through interviews with participants and their families, the researchers increased their understanding of what constitutes poverty in Tansen and how it might be changed using media and information and communication technologies.

The same process of research was applied in the gradual, batch-by-batch development of the training curriculum. Researchers facilitated a high degree of interaction among the organisers

The centre of Tansen town photographed from Shreenagar Park on the rim of the Madi valley. The CMC is located on the main bazaar road, which runs from the lower left to the centre of the photo. Tansen is the headquarters of Papla District. Once a major regional centre, like many hill towns in Nepal, Tansen is increasingly affected by the relatively higher growth and mobility in the plains and armed conflict between the government and Maoists. Photo credit: New Photo Concern Studio, Tansen

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Box 8 : TV Browsing – Step by Step

Internet Content
- Searching and gathering information from the internet
- Selecting the websites and saving them to the disks for offline viewing
- Categorising selected websites and finalising the intended content to be relayed
- Re-surfing the offline websites and recording the method of browsing in the video
- Translating and scripting the content in local language

Video Footage for the Content
- Shooting the required on-site field video footage for the content
- Transferring the content to the media computer
- Editing the footage
- Scripting and recording voice-overs and narration for the footage
- Editing the narration and mixing the audio

Program Anchoring
- Scripting the programme content
- Shooting the introduction and closing remarks of the programme with an anchor person
- Transferring the video to the media computer

Mixing the various components
- This part involves mixing all the above components with extra sound effects, background music and other necessary effects. All the titles for the programme are also added. This is done entirely on the media computer with the help of video and audio editing software.
- The final video is then either copied on to a CD or recorded on tape. The video can be played either from the computer, a VCD player or the DV cameras.

Viewing the video
- The video is transmitted through the cable television channel

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and participants that informed the development of training and subsequently production. Based on needs and opportunities identified by the researchers, new training programmes are being run on a paid basis for potential markets of ICT users, starting with housewives and college teachers. Ongoing research helps to better understand specific information needs and gaps in the community and feed them into programming and TV browsing.

Research themes:

- Mastering media skills:
  - What methods will enable participants to produce independently and train each other? Can they be good media-persons?
- Media work and employment
  - Does the CMC training programme improve job prospects or self-employment?
- Participants as agents of social development
  - Are participants suitable agents of local social development?
  - What impact do the programmes have?

Box 9 : Research sample

Participant's diary 25th March, 2004

Sad Experience on the Way to CMC – Rima from a poor low-caste family

Today when I left my home for CMC, I met my friend who is also the student of CMC. She asked me why I was so early today. I told her that I have not enough money to travel by the bus to the centre. So, I came earlier to walk half the way. We both were walking along the road. When we reached at Saalghari, we met the bus coming from Khahare going to Tansen. The fare from that place to Tansen is only 5 rupees so we stopped the bus and get into it. When we were trying to sit, the conductor saw our ID card and asked in a funny way- "oh! Are you too going to computer training?" I replied – Yes. At this he said to his friend in joking style- you know, in a near future man will have to do nothing because everything will be done by the computer. Even in Maadiphaat, harvesting will be done by those computers. He was saying all these things as if he was satiring upon me. I felt very bad to hear this. I wanted to give him a good answer. But I myself have very little knowledge about computer. I have just started my computer training in CMC. CMC has given us the opportunity to learn computer free of cost otherwise it is impossible for the poor people like us. I was very new in this field so I could not say anything to that conductor. I was just hearing to him couldn't say anything. But his words forced me to think about that. "How is it possible harvesting through computers?" I was just wandering, thinking and asking to myself but couldn't get any answer. I was thinking so deeply that I didn't notice at time, we had reached Tansen. I got down from the bus and directly moved towards CMC.

Research methods:

- Social and organisational mapping
- Participant observation and field notes
- In-depth interviews with participants and non-participant poor youth
- Household interviews with participants and non-participant poor youth
- Viewership surveys, focus group discussions

Impact on poverty

Although the link between poverty and media training and production is not immediately clear to many observers, the CMC's work with poor local youth does several things that are

Doing the layout for **Gaaule Deurali***: Gaaule Deurali is a rural-oriented weekly paper produced by Rural Development Palpa in Tansen. The cover story here is about raising guinea pigs to sell as pets. In May 2004, in an effort to increase Nepali language internet content, Gaaule Deurali went online as part of the tansenpalpa.net website in partnership with the Tansen CMC. The paper also runs regular features on computers, internet and new technologies as a way to raise awareness about ICT among its rural readers. Photo credit: Ian Pringle*

important in reducing poverty: it develops skills, builds confidence and inspires self-expression and participation in wider community spaces. A good example is the story of the cousins (see Box 7 User Profile: Sripal and Rampal).

While the CMC facilitators are aware that not all students will find employment through their new skills, the handful that have found employment – shooting and editing wedding videos, as camera operators and in the new radio stations – are a positive example for the rest, inspiring them to look for new opportunities with new skills and confidence.

The CMC represents a free space, one of potential opportunity in which practical, 'modern' skills allow generally disempowered youth to create and communicate content and ideas. For many, the experience has been highly empowering. The exposure to and knowledge of both computers and media tends to increase the individual's social capital.

Youth are given a free hand in choosing topics and formats for the student features, however, common themes of advocacy, awareness and self-expression have emerged. One programme featured the inter-caste marriage of one of the CMC volunteers; another series profiles traditional caste-based trades from fresh perspectives.

The Tansen CMC counters the inaccessibility of mountain towns, and as cable penetration increases, semi-rural suburbs and larger villages as well. The CMC increases local capacity to create programming and use media tools while simultaneously starting and supporting new means to showcase the outputs.

By linking media like internet with local radio and TV, the CMC connects Tansen to the outside world, from markets on the plains to educational opportunities in the capital, just as it now links absent students and migrants with their families back home. The CMC provides hundreds with direct access to ICTs and through cable TV, radio and print, thousands more with some degree of mediated access which also provides for translation and contextualisation, not to mention overcoming literacy and affordability barriers.

The Road Ahead: Self-reliance and Sustainability

With over a year and half of operations[1] under their belt and a history of local production dating back more than ten years, the Tansen CMC has many creative ideas for how to sustain their operations and provide employment and income generating opportunities for poor local youth.

The CMC plans to introduce a membership system through which community members and volunteers are able to use the computer and internet facilities. The team plans to expand the hours of cablecast programming to increase viewership and hopefully community support.

The *Local Programme* has started to carry some small advertising with spots made by youth volunteers. The CMC offers paid video and production services for local weddings and other ceremonies. Youth who do the video shooting split the NPR 2000 fee (about USD 25) with

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[1] The Tansen CMC was established in March 2003

the centre. The CMC charges NPR 750 (about USD 10) to mix wedding video footage. The centre has started to offer limited paid, low cost training programmes; for example, housewives are paying average of NPR 900 (about USD 12) for a three-month course covering basic computers, word processing and internet.

The CMC is also planning to introduce on-demand music and video features for cable subscribers and new services whenever available technologies permit. With three new FM radios broadcasting from Tansen, at least another four FM stations in the area as well as two TV stations in the capital, the Tansen CMC organisers feel they are in a unique position to provide both skilled human resources as well as high quality audio and video programme productions.

> ### Box 10 : Partners
>
> Communication for Development Palpa (CDP) is a small NGO established in mid-1990s by local residents to facilitate local, community-oriented video, television and by 2000, multimedia production in Tansen. Contact Mahesh Shakya mahesh@tansenpalpa.net
>
> Rural Development Palpa publishes a weekly news magazine called *Gaaule Deurali*. The focus is on rural issues and literacy promotion. RDP has trained over 600 people in basic journalism and writing skills. Contact Megh Raj Sharma rdppalpa@nec.com.np

ETHNOGRAPHIC ACTION RESEARCH WEBSITE

At a glance

The ethnographic action research website[1] has been central to the development of the UNESCO network. The site is an online archive of research data and a private collaborative workspace for local and lead researchers and organisers. It was developed to support the processes of research, documentation and analysis as part of UNESCO's ethnographic action research network.

The website has been an instrumental tool in the exchanges and communication between the lead researchers who conceptualise and guide the research process and the action researchers who collect the research data and in turn guide programme development on site. The website is designed in such a way that it can optimise such exchange for rigorous and productive research as well as facilitating the sharing of research findings.

By November 2004, after two years the site has over 1500 postings, including field notes, comments and feedback, diaries, interview transcriptions and online chat transcripts, in addition to other project documents (reports, maps, programme schedules, research and training plans).

Participants
❍ At present, a total of 32 active members including four lead researchers, one administrator 18 action researchers, five local site workers as well as five project coordinators from UNESCO.

Facilitating agency
❍ Creative Industries Research and Applications Centre (CIRAC) of Queensland University of Technology (QUT). The EAR research website is hosted on CIRAC server. The site was installed and configured by Marcus Foth, a CIRAC PhD student.

Initiated
❍ December 2002

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1 http://cirac.qut.edu.au/ictpr/

Background

The website is based on an open source content management system called PHP Nuke (see http://phpnuke.org/). CIRAC used it to develop a simple website that allows website members and lead researchers

- ○ to use and explore the potential of an online space for the archiving of research data from across the local initiatives;
- ○ to support and do distance training for the local researchers;
- ○ to guide the overall research process in a hands-on way;
- ○ to share and discuss data collected; and
- ○ to assist further development and application of the research.

The ethnographic action research approach was designed as a methodology that produces research findings that are used in the process of sharing analysis and findings and simultaneously applied to individual site and overall project development. The pooling of data from across the initiatives further allows for comparative research across a range of ICT initiatives.

The research approach was initially conceptualised by researchers in CIRAC and the London School of Economics for a UK-funded evaluation of Kothmale Community Radio and Internet in Sri Lanka, UNESCO's pilot in community multimedia. The Kothmale work aimed to develop a transferable evaluation methodology for ICT projects in development contexts. It was then further developed and applied within UNESCO's cross-cutting theme initiative on innovative ICT applications for poverty reduction[2].

The research website has proven to be the backbone of the network and the core of online interaction. Each of the initiatives in the UNESCO network has a trained, full-time local researcher/site worker actively combining project research and development. The researchers are supported in a variety of ways – through face-to-face workshops (four between November 2002 and August 2004), a user's handbook[3], regular field visits by lead researchers and organisers, and through a range of additional online tools (chat, email, listserves, and a public website[4]).

Initial training workshops were provided on the research methodology to all of the action researchers from the different sites. The action researchers are part of each of the local site teams, working on site alongside other local staff, volunteers, users and participants. Researchers gather and interpret data within their specific socio-cultural environments, keeping their materials online and feeding findings into ongoing project development.

At the same time constant interaction between the lead researchers and the action researchers is essential for two main reasons: Firstly, the approach is still new and the

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[2] Four of the network's nine sites are profiled in other chapters of this publication and the research is discussed in detail in *Research on ICT Innovations for Poverty Reduction*, by Don Slater and Jo Tacchi. UNESCO New Delhi: 2004.

[3] Downloadable from http://cirac.qut.edu.au/ictpr/downloads/

[4] www.ictpr.nic.in

Users Journal
[Journal Directory][Your Journal]

Journal for: "Karma"

Profile	Title (click to view)	View	Profile
Karma	24th Sept. to 20th Sept (10-04-2004 @ 05:02 pm)		
Karma	5th July (07-10-2004 @ 11:16 am)		
Karma	Kuchik's Second field Note (06-22-2004 @ 02:50 pm)		
Karma	(06-22-2004 @ 02:50 pm)		
Karma	19th June Filed Note.... finalization of plan (06-20-2004 @ 04:04 pm)		
Karma	Kaushik's First Field Note (06-19-2004 @ 01:59 pm)		
Karma	Kaushik's First Field Note (06-19-2004 @ 01:59 pm)		
Karma	16th fiel Note (06-17-2004 @ 10:23 pm)		
Karma	Nepal trip: 15th June (06-17-2004 @ 10:20 pm)		
Karma	Nepal trip: 15th June (06-17-2004 @ 10:20 pm)		
Karma	48th Day: The Dark side of the ICT Centres (05-19-2004 @ 11:08 am)		
Karma	Catch 22 (04-19-2004 @ 07:47 pm)		
Karma	field note of the Ghoom Centre (03-31-2004 @ 03:48 pm)		
Karma	2nd Field note from Research Team of Ghoom (03-29-2004 @ 01:25 pm)		
Karma	From the Research Team of Ghoom (03-29-2004 @ 01:22 pm)		

The front page of a researcher's online journal: Each local researcher has a dedicated journal section in which to post field notes and diaries, the pillars of the ethnographic action research approach. The site displays all the researcher's postings (with the date posted). The site archives accumulated research data, makes it accessible other researchers and allows for feedback and discussion based on individual postings. A closed network that prioritises confidentiality of the researchers' data, the site has facilitated a high degree of interactivity and over 1500 postings.

researchers require regular support and guidance; and secondly, as the name suggests, the research approach is strongly oriented towards project development and for this to be effective constant discussion between and among researchers and organisers has been important in allowing findings to be fed back into the interventions themselves.

Profile
The main sections of the site that have been extensively used are:

❍ **Forums** – to add messages about individual sites, and discuss methodology and analysis. There are various sections within forums and any of the members can

Projects

Darjeeling Himalaya Internet Railway Darjeeling, West Bengal, India	46	99	Sat Dec 04, 2004 4:31 pm Karma →🗋
Empowering Resource Poor Women to Use ICT Tamil Nadu, India	15	90	Thu Dec 09, 2004 2:04 pm SauMri →🗋
ICT Learning Centre for Women Seelampur, East Delhi, India	14	40	Tue Nov 30, 2004 2:41 pm SauMri →🗋
Takar Community Multimedia Centre Takar, Bhutan	7	12	Mon Jul 12, 2004 4:47 pm SauMri →🗋
Nabanna: Networking Women and Indigenous Knowledge Baduria, North 24 Parganas District, West Bengal, India	36	87	Tue Dec 07, 2004 1:57 pm SauMri →🗋
Namma Dhwani - Local ICT Network Budikote, Kolar District, Karnataka, India	35	118	Tue Dec 07, 2004 2:36 pm SauMri →🗋
Tansen Local ICT Network Tansen, Palpa District, Nepal	27	77	Mon Dec 06, 2004 9:12 pm Utpal →🗋
Uva Community Radio Network Uva Province, Sri Lanka	21	67	Wed Dec 09, 2004 8:12 pm SauMri →🗋
Youth-led Digital Opportunities Sitakund, Chittagong District, Bangladesh	9	17	Tue Mar 23, 2004 3:02 am SauMri →🗋
Uttaranchal Himalaya Trust Community Radio Initiative	38	72	Tue Dec 07, 2004 8:52 pm SauMri →🗋
Lumbini Lumbini Information and Communication Cooperative Ltd., Nepal	23	76	Mon Dec 06, 2004 7:16 pm Karma →🗋
Madan Pokhara CMC	4	13	Tue Dec 07, 2004 8:12 pm Karma →🗋

Local Information Networks

what is LIN? description of this project	2	2	Mon Nov 22, 2004 7:18 pm SauMri →🗋

The Forums page of the ethnographic action research website showing the topic folders, the number of postings within each and the dates of the most recent posting: The Forums page is organised according to sections and folders covering an increasingly broad range of topics; some are dedicated to specific research sites and others to particular topics of investigation. Forums is one of the most actively used sections of the site, where researchers regularly post materials based on interviews, workshops, group discussions and analysis. Postings lead to discussions on different topics and exchanges between researchers.

contribute. Postings are of research data such as interview transcripts and also, of analysis and draft papers. New entries in the forums are highlighted for easy access.

❍ **Journals** – to write up, or paste in, field notes[5] that are an important research tool in this approach. Each researcher has her/his own journal to make their postings. Links to the five most recent journal postings appear on a side panel.

❍ **Downloads section** – for storing, exchanging and accessing documents such as maps and diagrams and also long texts that are not suitable for forums. Many of these documents are available to non-members as a way to share research publications and materials.

There are also convenient search options in the site and within different sections. If researchers wish to make announcements to the other researchers, this is submitted as an article and appears on the home page. There are also options for sending/receiving private message and starting polls and surveys.

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[5] Samples of fieldnotes are given in the initiative profiles presented in other chapters of this publication.

Users and usage

The website is used primarily by researchers to post their field notes and other materials and for discussion among members of the research network. Essential to the success of the site has been dedicated animation and regular input by lead researchers and a responsibility and commitment to use the site by the majority of field researchers.

Members access the site from: Seelampur and the UNESCO office in New Delhi, Kolkata and Baduria in West Bengal, Bangalore and Budikote in Karnataka, Chennai, Kancheepuram and Cuddalore in Tamil Nadu, Darjeeling, and Uttaranchal in India; Sitakund in Bangladesh; Tansen and Lumbini in Nepal, Jakar in Bhutan, Uva and several other locations in Sri Lanka; Brisbane in Australia; and London in the UK.

All the researchers who are members of the site have been oriented during research workshops on the use and functions of the site.

Only registered users have access to this site and all the content is to be treated as confidential. None of the content from this site can be reproduced elsewhere without the approval of the person who posted that content. Names and places must be appropriately anonymised.

Box 11 : User profile
I have been really busy in the field for the past few days and have barely had time to write my fieldnotes. Bit of a crisis there with tensions brewing between the staff and the volunteers, anyway things are sorted out for the moment.
I was thinking that today I have to log on to the research website for sure. Went to the centre and I logged on at 11.00 AM and saw that a few other researchers were online, I think posting their materials. I went straight to the Journals section and posted three of my fieldnotes. Then I saw some of the journal postings the other researchers had made. Made me feel a bit guilty for lagging behind!
Then I moved to the forums section and saw where there were any new postings. I also had to post my interview notes from the other day, did that. Then was curious to read some of the other postings. Good that I did that, found some interesting discussion going on about how to identify poor people for the intervention. Added my comment to it on the basis of experience at my site. Time to log off, it was 11.40 AM and I had to get back to the field for a group discussion that we had scheduled for the day. Also some boys were queuing up from behind to use the computer after me.
(Notes from an action researcher)

Insights

The sites have been contributing research data to a centralised research website for the better part of two years (December 2002 – November 2004). The data is posted on the website in different sections and other researchers comment upon and critique the data that adds new dimensions to the analysis and new directions to the project.

The research has proved important locally for individual project development and at the same time comparison of research across the sites has helped network members to learn from each

other's experiences. More than this, the process of training all the researchers in the same methodology, and storing and discussing research data in a centralised location has given the opportunity to compare and contrast research, and develop significant insights into the potential role of ICTs in poverty reduction.

In response to needs felt at different times in the research and the findings emerging from the research, the website has constantly evolved. New sections and sub-sections have been added. Additions are also made before a meeting/consultation in order to facilitate discussion around it. As new initiatives join this research and innovation network, the website has been expanded to incorporate postings about new interventions.

Started as a basic and cost effective content management system using PHP Nuke, the site has developed beyond initial expectations and proved to be essential for the consolidation, development, and communications of both the research and innovative applications of the network. The site has proven invaluable for sharing research results and developing outputs (new pieces, articles, papers, presentations and major publications).

The approach and the website in particular have been highly useful for UNESCO in terms of monitoring project development, gaining insights and planning strategies, engaging with the local site teams and evaluating use and coordination of project inputs. It has contributed to a significantly different means of monitoring field interventions and putting local organisers and communities in the driver seat of project development.

The success of the network at integrating innovation and research, with the website's collection of postings at its centre, has inspired the development of a new phase of research in South Asia alongside new networks in other parts of Asia.

The Road Ahead

As a basic website using 'off the shelf', free open source software, the site has certain limitations which experience has demonstrated can only be overcome through a purpose built online suite of tools.

Learning from experience, CIRAC is planning to create a new, purpose built web application to support research online on the basis of a more advanced technical framework using Zope/Plone (see http://www.plone.org/). The new online content management system will address the changing needs of existing and new research networks.

The new tool, to be deployed in 2005, will offer a more sophisticated set of open source online tools that combine all three modes of communication (online forums, email and chat) and add other user-friendly online formats such as web logs. The new site will feature more collaborative spaces for use between national or regional networks and importantly, a public space. CIRAC developers plan to pay particular attention to accessibility issues, so researchers and others with poor connectivity, for example, will not have to navigate more than one or two pages before reaching the templates and documents they require.

NAMMA DHWANI COMMUNITY MULTIMEDIA NETWORK

At a glance

Women, youth and other members of the local community are producing radio programmes and organising information content relevant to their interests and needs. Namma Dhwani combines a community cable FM radio station with a telecentre in a local information network that reaches five villages and some 5000 people. The network is managed and operated by organised women's groups and volunteers in partnership with a local information resource centre and the Budikote community.

Location

- ○ Budikote and surrounding villages, Kolar District

  Karnataka, India

Participants

- ○ Local women, especially women organised in self-help groups (SHGs) and community volunteers, generally youth
- ○ Development workers, teachers and other members of the community

Facilitating agencies

- ○ VOICES (Bangalore)
- ○ MYRADA

History

- ○ The seeds of the Namma Dhwani centre were laid in March 2000 with community radio awareness and training programmes. An audio studio was established in September 2001 and computers were added in 2002. 'Cablecasting' on FM began in March 2003.

Background

Concept

Namma Dhwani combines a radio studio and a local cable network with a telecentre that features computers and other multimedia tools. Daily community radio programming addresses local information and community needs, drawing on a variety of local sources as well as multimedia resources like websites and CD-ROMs. The main objective is to enable and empower local communities to own and use a range of information and communication media to support social, economic and cultural community development.

Within a broader framework of information and communication technologies, Namma Dhwani aims to demonstrate the feasibility of community radio in India (where the present broadcasting regulations do not allow communities to have their own broadcast radio stations). A key goal is to develop replicable models for organisation, training and programming as advocacy tools in support of community radio.

Location

Located in Kolar District of Karnataka state in south India, Budikote is a large village close to the Andhra Pradesh and Tamil Nadu state borders. It is about 85 km or a two and half hour drive east of Bangalore, India's IT capital. The Kolar district headquarters (also called Kolar) is 30 km away. The nearest municipality is Bangarpet, 13 km by a paved, but heavily potholed road. Budikote is the largest village in the immediate area and is the Panchayat, local self-government, headquarters for the surrounding eight villages.

Context

More than 600 families, about 3000 people, make up the population of Budikote. The majority religious group is Hindu (84%) with Muslims making up a sizeable minority (15%). Families following Christianity and Jainism (1%) are also part of Budikote's community. Most people speak Kannada and Telugu. The literacy levels are roughly 50 per cent for women and 55 per cent for men.

Budikote has one high school and three primary schools in which approximately 1,300 children from Budikote and nearby-by villages study. The community's access to medical facilities is limited to a private clinic and an ill-equipped daytime government dispensary.

The village has a sub-exchange for telephones, accommodating 300 lines on a 200-line connection system. The quality is often poor; service is unreliable and does not generally support data connections. Available radio services include Radio City (commercial) FM and All India Radio (public) AM and FM services, broadcast from Bangalore.

There are no public access points for computer or internet facilities in Budikote; the nearest access is in the town of Bangarpet, 13 kilometres away. A local cable TV operator offers seven channels in the regional languages (Kannada, Telugu and Tamil) for INR 80 (about USD 1.75) per month.

Primary occupations are agriculture and casual labour. The community is vulnerable to the whimsical monsoons. Although Kolar is close to the thriving state capital Bangalore, it has been affected by an ongoing drought, which has led to an increase in poverty levels.

One of the outstanding features of this area in general is the prominence of *self help groups* (SHGs), promoted and organised by NGOs like MYRADA and by the Government of Karnataka. At present there are about 9000 SHGs in the Kolar district alone, mostly based around group savings-and-credit. Budikote itself has 13 women's self help groups.

Namma Dhwani has been guided by MYRADA's experience in the local area and a strong, pervasive emphasis on integrated community development, centred on organised grassroots groups, in particular SHGs.

The Namma Dhwani facility was established in a purpose-built space above what was then a small MYRADA office, and is now the Jagruthy Local Resource Centre. Co-location has been significant in terms of the linkages between development and media, and information and communication. Set up as part of MYRADA's exit strategy from running from a donor-funded, reasonably large scale development programme in the area, the Jagruthy Resource Centre and three other centres like it, establish, train and support local community-based organisations, specifically self-help and watershed management groups. The centres facilitate group organising and other skills training, providing the groups with a vital information link to government and private institutions. The crossover in facilities, staff, volunteers and mandates has helped Namma Dhwani to build ongoing, active relations with government departments like horticulture, agriculture, women and child welfare and district and sub-district offices.

Portrait

Namma Dhwani, *Our Voice* in the local Kannada language, has developed gradually as a community media centre and local network. A needs assessment study done by VOICES and MYRADA in 1999 pointed to the lack of awareness and information and the need for suitable communication tools. Neither the available private nor government media cater to the specific needs of the community – mirroring a general information gap that exists in rural areas and among marginalised populations in the rest of the country.

The study was followed by training sessions for volunteers, conducted by broadcasters from All India Radio (AIR). Training resulted in programmes on community issues like organic farming techniques, reproductive and child health and insurance. These programmes were

Grade 10 students in the local government school listen to special Namma Dhwani programmes. The speaker mounted at the front of the classroom is directly connected to the Namma Dhwani studio, about 100 metres away. The idea for the school cable radio came out of discussions with students and teachers about ways to increase the range and relevance of information content and means of learning available to village students. The school connection is a way to increase the level of participation by young people in Namma Dhwani both as producers and listeners. Photo credit: Santosh.H.S. / Namma Dhwani / VOICES

broadcast on AIR and 'narrowcast' in the community, a process involving playing cassette tapes during group meetings. Narrowcasting reached some 60 self-help groups spread across 35 villages in the area around Budikote. Feedback from the members of these groups, generally women from poor families, was incorporated into the cycle of programming and playback.

In September 2001, with support from UNESCO, VOICES and MYRADA established an audio production centre above the small MYRADA office, with a simple, two-room studio, field recording equipment and a covered, outdoor training and meeting space. At the same time, a management committee was set-up and two studio managers were hired to run the centre and coordinate activities and volunteers.

The studio managers, SHG members, and volunteers continued to produce radio programmes for AIR and for narrowcast among local groups. In early 2002, Namma Dhwani began 'market broadcasts', sending out music, pre-produced programmes and some live elements on loud speakers during the weekly Tuesday market.

Three computers were added to the centre in April 2002 to train youth, especially school dropouts, and other interested people from the community in basic computer skills.

In July 2002, a cable was laid, connecting the Namma Dhwani's studio to the grade ten classroom of neighbouring government high school. Based on discussions with students and teachers, Namma Dhwani began to produce regular programmes, with students' involvement, for 'cablecast' during class time. In addition to covering subjects that are part of the school classes, supplementing the curriculum with model lessons, the programmes include a strong focus on current affairs and local news, alongside music and drama, programmes on social issues like dowry and the environment, as well as segments on general knowledge.

Community radio programming, multimedia and local networking
As skills improve, radio programmes have become more sophisticated, both in terms of content and production values. As community participation grew, volunteers and SHG members began producing audio programmes on relevant local topics such as crop patterns, electricity and water problems, and health issues. Namma Dhwani also started specialised programmes, based on identified needs and opportunities. In May 2002, a workshop for local children to produce a series of plays revealed new possibilities for participation and programming.

With Namma Dhwani's growing production and organisational capacity limited by the constraints of narrowcasting and market broadcasts, the management committee, supported by the partners and with financial support from UNESCO, decided to pursue cable FM broadcasting and expand the computer facilities.

Meetings were held among the SHG groups and with the local private cable operator. An agreement was eventually reached in which the cable operator agreed to link the Namma Dhwani studio to the cable network and to dedicate a channel to the radio programmes. In March 2003, in the first phase of FM cable, the nearly 250 households with television sets and an existing cable connection were able to listen to the Namma Dhwani audio channel through their television sets and cable service.

Along with cable distribution, Namma Dhwani also began to expand its use of digital media and new information and communication technologies (ICTs). Eight additional computers were provided in 2003, including a server and a unit for digital audio production, as well as CD writers, a scanner-printer unit, portable USB drives and a digital camera.

In the second phase of FM cable, begun in July 2003 with the technical support of a large cable provider in Bangalore, new cable was laid, networking 125 households without existing connections. Most of these households listen to Namma Dhwani on modified radio sets, available to them at subsidised price. The radio sets, including new batteries, were sold by Namma Dhwani for INR 120 (about USD 2.75), 50 per cent subsidised.

By November 2004, the cable network was reaching over 325 houses in Budikote with a two hours daily cablecast between 7-9 PM. Programme slots have been dedicated to local news, panchayat (local government) issues, bus-timings and market prices, indigenous medicine, agriculture, health, income-generating ideas and sangha (SHG) issues as well as devotional songs and cinema music.

To date, Namma Dhwani has made about 800 radio programmes on a wide range of topics. Programme formats include both live shows and produced features in Kannada, Telugu, Urdu and Tamil languages. The programmes are made using local volunteer talents as well as expertise and knowledge of people in nearby towns and other parts of the district. The centre is building up a rich audio library of largely undocumented folk and traditional music and drama of the region.

In an effort to distribute its audio content more widely, expand its network of users and generate income, Namma Dhwani now supplies resource centres in three other villages – Kamasamudram, Thorlakki and Dinahalli – with nine hours of audio programming for a nominal fee. The tapes contain need-based content largely based on issues of local governance, health and education. Resource centres in all three villages do loudspeaker broadcasts of one-two hours every evening.

Table 6	
Expenses (January 2003 – April 2004)	**USD**
Equipment & facility: computers + peripherals, camera, portable audio recording kits, generator	20,300
Cable network establishment	3,500
Connectivity: dial-up	1,200
Personnel: coordination/research (2), local staff (3)	6,600
Research & field costs: transportation, accommodation	2,000
Running costs	3,200
TOTAL in US dollars	**36,800**

The social network
Based largely on over a decade of MYRADA's experience in integrated, community-based development in the Budikote area, Namma Dhwani is explicitly linked to the local network of

women's self-help groups. Representatives of SHG groups are responsible for decision-making and management of Namma Dhwani's staff, volunteers and facilities.

Budikote's SHG network is made up of 13 groups representing some 250 women. Each of the groups nominates one of their members to sit on Namma Dhwani's management committee. The committee meets on the 5th and 25th of every month to evaluate programming, provide feedback and discuss management issues.

Committee members are also community motivators, promoters and facilitators. An essential task of the committee is to motivate participation and to work towards every family contributing to the making of at least one radio programme. It is significant that Namma Dhwani is available in every SHG household in the village.

As part of an ongoing capacity building process, the management committee drew up a wish list. Namma Dhwani's goals include every family in Budikote having access to the radio service in their homes, community members being not only listeners and users, but also programmers and content producers. Amongst other priorities, the goals emphasise indigenous medicines, schooling for every child and computer literacy for all of the village's youth.

In mid-2004, based on research and discussions about gender and development, the management committee was expanded to include male representatives of watershed management groups.

Box 12 : Media mix

- Audio recording studio with digital production facilities
- Local FM cablecasting
- Cassette narrowcasting
- Loudspeaker broadcasting
- Computer centre for training and public access
- eNRICH content management solution

The technical network

Namma Dhwani uses a variety of technology to source, produce and disseminate information content. Radio programmes are made and cablecast daily to village households using an eight-channel mixer, cassette and CD decks, microphones and a computer for digital editing. The studio has a simple recording room separated by a large window from the control room. Soundproofing is basic, coir pads and curtains, and both spaces have functioning windows.

From the studio, the signal travels about half a kilometre to the cable facility where it is modulated on an FM frequency and sent out to the cable network. People listen to the radio service either through their television sets or on radios that have been specially modified with a jack to plug in the cable. Another connection takes the signal to the high school, about 100 metres away, where students listen to their own programmes for two hours a week using a simple speaker mounted at the front of the classroom.

In 2004, Namma Dhwani introduced limited video production and started to expand the network to other villages using the same low-tech approach that preceded cable in Budikote. On two occasions, Namma Dhwani cablecast live television programming, in one instance a quiz show for local kids and in another, a live version of the popular 'letters show' (in which the hosts read out letters from the community) and an in-studio music performance by local musicians. Both were highly popular and have inspired a strong interest in integrating video and television into Namma Dhwani's media mix.

In three neighbouring villages, loudspeaker broadcasts featuring a mixture of Namma Dhwani programmes, basic local production and live presentation are now heard daily using speakers mounted on buildings and telephone poles located at strategic areas in the main markets. The broadcasts originate at local information resource centres, similar to the Jagruthy Resource Centre downstairs from Namma Dhwani in Budikote.

A local area network connects one high-end computer in the studio, a server in the resource centre and six in the computer room. Software includes MS Office and MS Paint, Photoshop, Macromedia Dreamweaver for web design, Cool Edit and Audacity for audio editing.

Namma Dhwani has also made productive use of the eNRICH content management system. Hosted on a server located in the resource centre downstairs, eNRICH provides community members with access to content sourced, packaged and posted in the system by staff and volunteers from resource centre, Namma Dhwani, VOICES and MYRADA. Radio programmes are also archived in MP3 format and made available through the computer network.

Although internet connectivity to date is unreliable at best, websites are copied in Bangarpet and Bangalore, stored offline and delivered to the centre using portable USB drives. Similar content is also extracted from a variety of CD-based media. Print information from government and development organisations is scanned and reproduced in PDF format. Local information, from telephone numbers to market prices to health and cooking tips, are packaged using MS Word, Powerpoint and Excel.

eNRICH content, websites, CD-ROMs and other computer-based content also forms the basis of 'radio browsing' programmes in which radio hosts browse live in-studio exploring

The modified radio set in use at a local shop in Budikote's small market area on the main street; The co-axial cable (coming from the upper left of the photograph) carrying the Namma Dhwani FM signal connects to the radio through a specially modified jack. For those that have them, audience members can also listen to the radio programmes through their television sets. One of the many beauties of radio, listeners are able to listen while they carry on with their everyday activities. Photo credit: Santosh.H.S. / Namma Dhwani / VOICES

computers and content together with listeners in a sort of browsing telecast. The goals of the programmes are to raise basic awareness of ICTs, to visualise computers and different types of content and browsers, to share new types of information and content, and to motivate listeners to come to centre and use the computers for themselves.

Table 7	
Equipment	
Computers & peripherals:	
Desktop: Compaq – PIV 1.8GHz, 256 RAM, 40 GB	5
Desktop: Compaq – PIV 1.8GHz, 512 RAM, 80 GB	2
15-17-19" monitor – Compaq	8
Server: Compaq – PIII 1.26 GHz	1
Laptop: Compaq – PIV 1.8GHz, 256 RAM, 30 GB	7
Inkjet Printer/Scaner/Copier – HP OfficeJet 33300MFP	1
Modem	1
CD writer – Samsung	4
USD portable media – 64-128 MB	2
Media:	
Digital Camera – Sony DSC-P9 – 4 Mega Pixel	1
Memory Stick Recorder + mic + headphones	2
Other:	
Generator – 10 KVA Diesel Generator	1
Software:	
Windows XP operating system	
Microsoft Server	
Microsoft Office	
Adobe Photoshop	
MacroMedia Dreamweaver	
Netscape, Internet Explorer	
eNRICH	
Cool Edit	

Skills, expression and information

The radio studio is used for both simple and larger productions, from programme presentation, news reading and interviews to group discussions, music performances and dramas. Studio managers and volunteers use portable cassette and memory stick equipment to record interviews and sound effects.

Gradually, Namma Dhwani has started to make more and more use of their computer facilities. Audio editing is now primarily digital, done on the studio computer using both proprietary and open source software. More and more of the centre's own administration is computerised, making processes more efficient, easy to access and paperless.

Radio training in the community is wide spread and varied. The focus is generally on practical media skills that can be applied within the centre itself, from radio presentation and production to programme and organisational management. In 2003, a total of 18 training

modules were conducted for nearly 300 people in Budikote and surrounding villages. The topics ranged from Namma Dhwani's concept and vision to methods of field recording, basics of journalism and radio drama.

Two-month computer training courses are offered at a nominal fee and are generally taken by the youth of Budikote and surrounding villages. They are mostly students from poor families, often school dropouts, looking to enhance their skills with job opportunities in mind. The courses cover the basics of computers and MS Office. The training curriculum has been adapted to suit local needs and now includes modules on basic accounting for the SHGs and use of regional language fonts and softwares. The courses have also developed a 'life-skills' element with regular workshops on interpersonal communication skills designed to facilitate expression and confidence.

Informal peer-to-peer computer training continues to be important for hands-on, purpose-oriented learning. In early 2004, Namma Dhwani started to offer paid certificate courses in association with a computer institute in Bangarpet, 13 km away. Namma Dhwani's computer centre is popular for scanning and printing, recreational computer usage and for word processing bio-data and resumes.

Namma Dhwani has also organised a regular programme on Saturdays for children belonging to the local children's club. They practice their skills and explore educational CDs, sometimes converting the content into radio programmes; for example, in one instance, a child used information from a CD on the history of Karnataka to make a radio programme on the same topic. Children who do not attend school were provided similar access in a two-week workshop to evaluate the ways through which they can participate in the computer literacy programme.

The gradual integration of the media and resource centres has added considerable value to both initiatives. The resource centre collects and develops information from a range of local sources: different levels of government, various extension offices, health institutions, banks, etc. Namma Dhwani disseminates information using cable radio and the eNRICH content management system and provides access to a wider range of information using online tools and digital media.

Participants

In total, the Namma Dhwani network covers some 1000 households spread across five villages, representing about 5000 people. Through one network or another, the vast majority have some indirect link to Namma Dhwani.

Approximately 250 women SHG members in Budikote and their families are the principle participants. Their involvement as Namma Dhwani's main stakeholders has been central to both the process of community organising and ownership and the development of information and content systems.

Another group of active participants are the volunteers. The 28 male and female volunteers, aged 14-26, are essential to the day-to-day operation of the centre as technical operators, interviewers, show hosts and presenters and assisting with documentation.

Namma Dhwani has also run specialised programmes for local children, school drop-outs, people with disabilities and has worked increasingly closely with the area's network of watershed management groups (generally male farmers).

Box 13 : User profile

Srinivas

Srinivas is a 22 year-old man who has completed schooling and is presently unemployed. Srinivas's made his first foray into Namma Dhwani in June 2003, when his friend brought him to the audio centre. He was then working in a local bar in Kolar. His first recorded reaction was that he could not believe there were so many computers and something like a radio station in his own village. He become a dedicated volunteer, fixing cable networks, learning to use the computers, accompanying other staff on field visits and finally making his own programmes.

Namma Dhwani, he says, has given him an identity and made him confident of his own skills. "I wanted to make a programme on the role of police in keeping a community safe, and the basic laws that people should be aware of. I went to Kamasamudram to interview the Sub Inspector of Police and the respect and attention I got from him was very nice... he even cancelled his appointment to speak to me and dropped me back home. I would have never been able to do this if I were a common citizen."

Srinivas, with others, has been instrumental in convincing other youth like him to become volunteers in Namma Dhwani. The volunteers meet every Sunday and play 'Anthakshari' (popular group game played with songs), and conduct quiz competitions on the radio. He has sometimes come under criticism from older members of the community for his open, 'free' behavior but that has not deterred his enthusiasm.

In April 2004, Srinivas was recruited to the position of the community resource person at the station.

Revathy

Revathy is 36 years old and has studied up to 4th standard and is involved in seasonal farming and vegetable vending; member of Deepa Mahila Sangha, Namma Dhwani Management Committee member, and the Sujala Watershed Development programme in Karnataka.

Revathy is married to Ravi, an artist and part time politician and has two married daughters. Revathy says, before she joined her sangha she did not even know to sign her name. Now, she can supervise basic accounting of her sangha and even speak fearlessly in front of men. That strength she says came from being within the institution and trained to understand the value of savings, credit and most important of all, information. Not surprisingly then, she sees Namma Dhwani as the best thing that has happened to her village since the formation of her self-help group.

The Namma Dhwani letters file has many long letters written by her husband on her behalf. Ravi himself has composed many poems and dramas and has trained many children in the Namma Dhwani children's club.

Revathy tries to listen to Namma Dhwani as regularly as she can and gets her daughter or husband to jot down her feedback about programmes in a book that she shares with the staff during meetings. So fierce is some of her criticism that one night she visited the studio to ask the volunteers not to play so many film songs and play more folk music.

She has contributed substantially to the programming by making programmes on personal experiences of motherhood, girl children and importance of education and a programme on her vegetable garden. She has recently replaced her fellow sangha member in the management committee of Namma Dhwani and is active in the decision making of administrative and programming matters.

Revathy wishes that everyone in her village would listen to Namma Dhwani with as much dedication as she does. "Many women spend most of their time in front of the TV watching those serials or films. What use is all of that for poor people like us?" she asks.

Insights
Research

The main focus of the ethnographic action research has been on understanding poverty in the local context and its relationship to information and communication media. Important insights have been gained into the differences between organised and un-organised sectors of the community, the role of caste and religion, and the different impacts of empowerment and leadership.

The integration of action research using participatory ethnographic tools within the Namma Dhwani network has increased participation and community ownership, narrowing the gap between information producers and consumers.

Investigative and participatory, the research has served to open community perceptions and preferences that feed back into Namma Dhwani's programming and content production. The approach has been instrumental in identifying a broad range of information needs, not only in terms of popular requirements like health or household medicine, but also in promoting experimentation with newer formats like live music and debates, the 'letters show' and special programming.

During the first phase of FM cable, ethnographic methods were complemented with a quantitative baseline survey that investigated demographic, economic and caste statistics, comparing data from Budikote with a similar village.

Research themes:
- Education – formal and informal learning and ICT content in education
- Governance – locally relevant issues and institutions, response of local political institutions, panchayat accountability
- Identifying organised and non-organised poor in terms of membership in community-based groups/organisations – not only in economic terms but also with regard to resource and information poverty
- Gender participation in community media programming and ownership

Research methods:
- Participatory rural appraisals (PRA)
- Semi-structured interviews
- Group discussions on specified issues
- Observation and field notes
- Monthly listener's survey

Box 14 : Challenges
○ Poor telecom infrastructure
○ Unreliable internet connectivity
○ Lengthy, regular power cuts
○ Constraints of cable FM in terms of distance and maintenance
○ Proliferation of commercial radio and TV stations
○ Motivating and keeping volunteers
○ Lack of local technical expertise

Box 15 : Research sample

Action researcher's diary April 6, 2004

Tuesday, time for staff meetings. Came in to see that the so called reporters of regional newspapers were listening to a speech made by one film star turned politician who had visited BK the day previous on an election campaign. Everyone was quite thrilled and showed me pictures. Listened to some parts of his speech which was ridiculously inflammatory and warned that none of that propaganda should be played. The night previous on the newscast they had played a short clipping of his with ref. to only the place.

Had a short staff meeting, and when we reviewed for what we had planned the week previous about 75% of the programming was not done. Last week we had come up with an innovative schedule for the SM's which included 3 days of studio and 3 of field work. This came up because most people don't want to go out into the field and want to make the easiest programming right in the studio. Did not want to give that up so easily, so planned for the coming week and we will see how this works. Noticed that Ratna, our younger recruit was at a complete loss and did not know what to do with herself.

So, in order to make her more comfy I took her out for lunch to my house and we discussed our families etc. I then told her that it was a month that she had been in ND and she now needed to go out to the field by herself and find the real experience. I told her that the rest of the team were there to support her but she needed to be more active. The thing with Ratna is that I never know when she understands stuff and when she does not, because she always has pretty much the same look on her face. On our way back, I realized that coming from where she does (20 year old widow) ND needed to build capacity of girls like her more than anyone else.

The management committee meeting began and it was a good meeting because informally all the members began to chat about programming and the call in segment to the letter show that they all loved. Anand then briefly told them about the election campaign and about other exciting shows we were planning. One of things that has struck me from the beginning during brainstorming or other talks with people is how well they appreciate or take in an idea that has its origins in commercial media. Be it the relic, call in show or best couple show, antakshari, call in shows with gynaecologist, comedy show (where studio gives surprise calls to households) all these shows formats already are on commercial TV and everyone in BK are so happy that they can do it in their own station. This was the first time that I felt that most people felt were listening to ND. Spoke to them about the computer training and told them that since the contract had been not been renewed as yet, they will have to spend for fixing some broken comps and in detail about the computer training itself. A MYRADA rep joined us at this point of time and began to ask in more detail about the kind of financial returns that were coming and the listnership in the village. At one point of time, Sushila and Lakshmi both said that they had no clue as to what to do, and would do whatever possible 'within their capacity' to help ND.

Rama also informed them that the number of feedback letters had drastically decreased and asked for them to be sent. I asked her to explain what we had planned in the staff meeting that morning and she asked for some women to volunteer for the segment on sat. where women were going to be speaking about their perception and role of elections.

I knew that Sushila would fit the bill perfectly and asked her to volunteer. Usually a very receptive woman, she said no. after some persuasion she said that she did not want to speak because Anand during some other programme had asked her not to speak emotionally and she said that she was scared she would speak the same way.

The rep from MYRADA that day seemed quite motivated on reviving the mang comm. And then told me that before the next day we needed to have an internal discussion about what we needed for them to do. Fixed a date for that and spoke about other stuff. When it was time for the cable cast, I asked Srinivas to go on a round of cable checking and wanted to hear Ratna on the mic. I had never heard her before and just before the cable cast started I saw Rama throw the newspaper at her asking her to select the news. This despite the morning meeting where Anand was emphatic about planning the cable cast and having the NP clippings ready. I felt so bad as I heard Ratna stammer, stutter totally unsure of herself, while Rama on the other side of the console did not even maintain eye contact and busy writing out the cue sheet. Anand immd called from below and scolded Rama because he was listening to the cable cast in his home. As I walked out, I told Rama that the least she could do was build confidence in the girl by encouraging her and not make her feel miserable for sounding so bad.

Networking and inclusion

One of the key overall objectives of the Namma Dhwani initiative is to promote information inclusion and to facilitate horizontal linkages across the community. The focus on skills and 'voice' aims to enable and empower poor women and youth to use a wide range of new and traditional ICTs and social tools to organise and communicate their concerns and access new resources.

With a growing base of information resources and expanding means of distribution, Namma Dhwani has significant potential to develop as a responsive, equitable local information network that reaches a cross-section of the community, including organised and un-organised men and women.

In September 2004, Namma Dhwani began extending the network's services to two nearby villages: Ambedkar (AB) Colony and Kodgurki using loudspeakers via cable. Both villages will be networked in a third phase of FM cable, planned for early 2005. Despite their proximity to Budikote, these villages are extremely poor and relatively isolated, due largely to the so-called 'low' caste status of its inhabitants. Based on in-depth research, specialised programming from Namma Dhwani will cater to specific needs focusing on health and governance issues.

The bulletin board at the Jagruthy Resource Centre, in the building shared by Namma Dhwani: Bulletin boards represent an important means of information dissemination and raising awareness among community members unfamiliar with computers or the cable radio. Namma Dhwani's media and content services are gradually being integrated with local resource centres in villages in the Budikote area. Working with Namma Dhwani, the resource centres provide information on government schemes, health, agriculture, employment, water conservation and other topics through an increasingly wide array of new and traditional media. Photo credit: Ian Pringle

By providing informative audio programmes and online content to poor families, Namma Dhwani has encouraged cooperative decision-making across the community-at-large and improved the bargaining power of poor families. The focus on multimedia content production has significantly increased the flow of relevant information, for example on government development schemes and health concerns.

Greater efforts are being made to feed relevant information into both radio and computer-based media. To overcome the lack of consistent internet connectivity, relevant websites are downloaded and posted on the eNRICH system. Radio browsing programmes take internet-sourced information to a wider audience, overcoming a whole set of barriers that poor, rural, illiterate, minimally educated and unskilled people face in accessing new ICTs.

Local governance

Experience and research have identified transparency and accountability in local governance as a critical need and corresponding objective for the network. Namma Dhwani has a mutually beneficial relationship with local community groups. SHGs, and increasingly other groups, root the use of media and ICTs in grassroots social networks. In turn, Namma Dhwani provides the groups with needed information and communication tools and a non-partisan, participatory community space. The result has been a significant increase in local organising capacity.

Through radio programming on the cable service and content available at the telecentre, members across the community are becoming more aware of the processes of local government and participating in local decision-making by asking questions, listening and even staging protests.

Namma Dhwani now records meetings of the local panchayat council and includes relevant issues as part of the daily cable radio service and a dedicated weekly programme. Regular coverage helps to put decision-making into the community space, facilitating transparency and promoting accountability. Special features have looked at participatory government accountability initiatives from other locations, for example the PROOF Campaign in Bangalore. A series of programmes were conducted in the month leading up to national and state elections in April/May 2004.

Empowerment

Being a part of Namma Dhwani has given SHG members, volunteer and other participants an opportunity to air their own opinions and concerns and explore interests and opportunities. There is clear evidence of increased self-confidence that has transcended barriers of gender, economic status and caste.

Media and computer literacy skills are perceived as marketable skills, especially for children and youth. That some of the radio volunteers and computer trainees have found jobs in private and public sector companies is as great an indication of increased confidence and knowledge as it is of increased employability.

Namma Dhwani is also perceived as a relatively free space, one in which investigation, creativity and freedom of expression come together. Both radio programming and other types

> ## Box 16 : Programme topics in June and July 2004 highlighting Namma Dhwani's role as catalyst of change
>
> ○ Selection of seeds and the sowing process
> ○ Sudha Murthy interview (role model, wife of Narayanamurthy, Infosys CEO)
> ○ Pregnancy
> ○ PROOF (Public records of operations and finance) governance programme
> ○ Importance of elections
> ○ Programme on the tri-semester educational system
> ○ Programme on the rice scam (vox-pop and interviews)
> ○ Programme from the employment department
> ○ Job opportunities after secondary school
> ○ AIDS and life after contracting HIV
> ○ Youth and cinema
> ○ Ulcer and gastric problems
> ○ Tuberculosis
> ○ Appointment of new panchayat (local government) member in Alambadi
> ○ Drainage system in Budikote
> ○ Indigenous medicine (from Ambedkar (AB) Colony)
> ○ Role and functions of the food cooperative society in Budikote
> ○ Petty shops (income generation)
> ○ Discussion about role of women in the present society

of content production have also had an important impact on the popularisation and preservation of local cultural forms, particularly music and drama.

The Road Ahead: Self-reliance

Thus far Namma Dhwani's main strategies for sustainability have been facilitating community involvement and building ownership, specifically crossover with local organised groups and institutions, volunteerism and integration with the local resource centre. Further inculcating research culture within the network's core team in Budikote and other villages, subsequent phases will consolidate volunteerism in all aspects of programming and operations. The focus of content development will continue to be on areas of health, education, governance and local affairs.

Extending cablecasting and telecentre services to other local resources centres and villages in the greater Budikote area has been identified as a priority in order to build a critical mass of users and participants within the network. Video production and cable television, along with a new open source version of the eNRICH content management system will be added to existing radio, cable and computer services. Obtaining a license for community radio broadcasting remains a top priority.

To achieve financial self-reliance, Namma Dhwani offers computer training courses and other paid telecentre services like scanning, printing and word processing. The radio cablecast has gradually started to generate income through local advertising and through sale of tapes to the other resource centres and with the addition of video, advertising is expected to increase. Programme sponsorship by community based and non-governmental organisations is also in development.

Another emerging source of revenue is community-to-community training sponsored by foundations, government and NGOs. Based on increasing demand for practical skills in local communication for development in India, Namma Dhwani began running community radio and multimedia training programmes in 2004 for other community groups. These trainings have further built Namma Dhwani's confidence and capacity as well as producing a considerable quantity of new content, catering to specific requirements of development projects in areas from HIV/AIDS to watershed management.

> ### Box 17 : Partners
>
> **VOICES** is a non profit trust based in Bangalore that promotes the use of media for social change. VOICES is a leading advocate for community radio in India. Contact: Ashish Sen voices@vsnl.com
>
> **MYRADA** is a non-governmental organisation managing rural development programmes in three states of southern India and providing on-going support to rural development programmes in six other states. Contact: myrada@vsnl.com
>
> Budikote's network of **women's self help groups** and **Jagruthy Resource Centre** have been central and essential in the development of Namma Dhwani as a community-based enterprise and information service.

eNRICH COMMUNITY BROWSER

At a glance

eNRICH is a content management solution developed for use in local multimedia and ICT centres. eNRICH is simple, multilingual, customisable and works with multiple media. The main objective is to provide community groups and local users with a ready-to-use tool that facilitates access to a range of information content and communication tools. The software enables local groups to organise and animate information resources from the internet or their own local computer systems. Users navigate and browse content offline or, where connectivity allows, online.

Information is managed through a structure of categories and sub-categories of information. The structure is customisable on the basis of relevance to a given community. Content can be uploaded and made available as text, image or audio from a local computer or through links to the internet. The system's database and interfaces can be hosted online, on a local area network or in a standalone computer environment. eNRICH's communication facilities include bulletin boards, quick access to chat and email services as well as dedicated sections for opinion polls and daily messages.

Users
- ❍ Multimedia and ICT centres
- ❍ Community members in centres in South Asia
- ❍ Researchers

Facilitating agency
- ❍ eNRICH was developed by the National Informatics Centre (NIC)[1] of the Government of India in cooperation with UNESCO

Initiated
- ❍ June 2002

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1 http://home.nic.in

Background

eNRICH was developed as a part of UNESCO's pilot initiative to innovate and research ICT applications for poverty reduction. The solution was initially deployed in nine sites in South Asia (Bangladesh, Bhutan, India, Nepal and Sri Lanka) in which a wide range of partners are working to use ICTs in innovative ways to contribute to poverty reduction efforts.

The eNRICH concept was based directly on UNESCO's experience in grassroots ICT initiatives in South Asia and other parts of the world. Analysis pointed to the need not only for access to information – market prices, health information, educational materials, etc – but also tools to facilitate the creation and development of content and user-friendly means to organise and make it available to prospective information users in the community.

Critical barriers faced by grassroots users include issues relating to language, literacy, appropriate skills and connectivity. Searching relevant information on the internet is often both a difficult and expensive experience. The vast majority of community groups and users do not have the skills required either to search information or to design websites or browsers to make information available. There are also significant problems with content available on the internet, primarily the lack of local language materials and uncertain authenticity.

eNRICH was conceived and designed as an easy to use interface that would enable local centres to more easily authenticate, moderate, organise and animate information content and communication tools for members of their local communities.

The software was developed by NIC in consultation with a team at UNESCO New Delhi. The first release – eNRICH 1.0 – was available in November 2002. Improvements based on field-testing were made through to the end of March 2003. Version 2, allowing groups to deploy the system using local language font scripts, was released in June 2003.

As part of the larger initiative to research the potential of ICT as a contributor to poverty reduction efforts, eNRICH also includes a facility for researchers to analyse how grassroots participants use what types of information content.

Profile

eNRICH works through two interfaces: one for community users and one for the site's content managers, called Desk Manager.

The Community Browser interface is the system's 'front-end'. Made up of different panels and workspaces, the browser allows users to navigate through available information materials and internet links and to upload their own content, vote in opinion polls and communicate with the site's content manager. Browsing is done primarily through hierarchical navigation-trees of folders, sub-folders and links to content that appears in pop-up windows.

The Desk Manager interface is a simple 'back-end' for the system, through which local content managers administer the site, customise the organisation of information categories

The eNRICH 'homepage' from an online version hosted in Sri Lanka for the Community Multimedia Centre Network: The Community Browser allows registered users to access different sections of the eNRICH system. The left column features Message of the Day and Opinion Poll, programmed by the site's Desk Manager. In the bottom left corner is the Local Database and middle right, Bulletin Board, areas in which users can contribute their own content and post messages for other users to view. The centre column and the bottom right corner section feature information categories and subcategories created and organised by the local Desk Manager. For example, under the Health category, users can access content on Health in Sri Lanka, Hospitals and Mental Health under the Health Facilities sub-category, and About Hygiene and Personal Hygiene under the Basic Hygiene subcategory. The site is hosted online at www.enrichcmc.net by EW Info Systems.

and headings, upload content, create links to internet URLs and moderate content posted by users. Researchers are also able to analyse the community's use of information resources against a range of variables (age, gender, address, etc). The interface has a left-side panel to select the site's different areas of functionality (e.g. the navigation-tree of 'Information Resources' and the 'Opinion Poll') linked to a central workspace in which desk managers make modifications and manage content and materials.
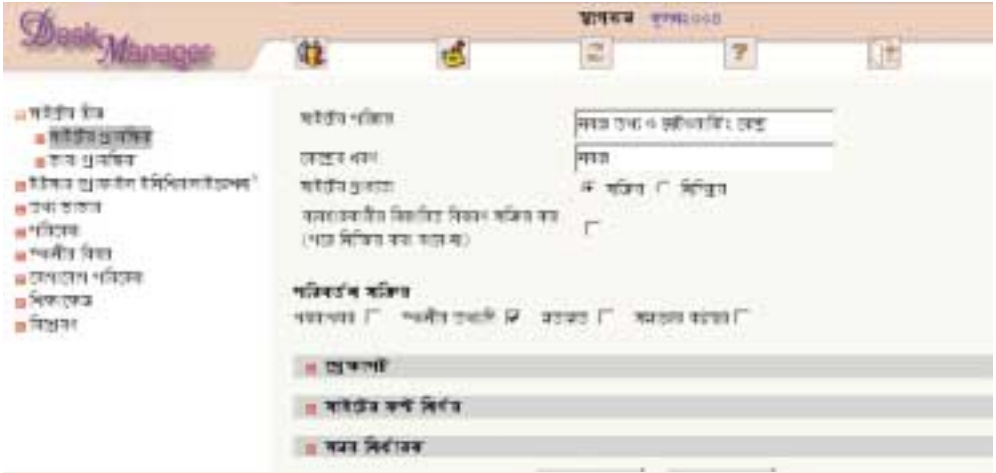
The eNRICH Desk Manager workspace from a Bengali language version deployed by the Nabanna network in Baduria, West Bengal:
Nabanna's staff translated the eNRICH Language Manager's 550 fields from the English default into Bengali using a Bengali script-font,
allowing the system to function and appear in their own local language. Through the 'back-end' interface, Nabanna Desk Managers are able
to organise information content, programme eNRICH's other features and make basic changes to the browser's appearance. The left column
shows eNRICH's main function-features listed in a expanding-collapsing hierarchy of bullet points; when a Desk Manager selects a feature
(in the image above, the Site Profile function is highlighted), the central workspace displays relevant options, allowing Desk Managers to
customize and modify their own versions (in the example above, the Site Identity and Centre Type fields have been filled by local Desk
Managers with 'Nabanna' and 'Nabanna Information Network Centre', which then appear on the headline banner; other functions under
Site Profile (in bold) include options for Background Templates, Timer and Language).

A content page from Namma Dhwani's Local Database: eNRICH's local database allows users to upload and view their own files under
headings created by 'Desk Managers'. In this example from the Namma Dhwani local communication and information network, a user has
uploaded a Kannada language file listing local employment opportunities. Created in MS Word, the chart shows the type and number of
positions available along with qualifications required for each post. Although Namma Dhwani currently runs the eNRICH system using the
English language, uploaded content files can be in any language or media. For more information on Namma Dhwani, see Chapter 4.

The **Community Browser** is divided into the following sections:

Information Resources is where content is organised and archived by desk manager(s) under different categories and sub-categories. The system comes with a series of built in categories (Basic Needs, Government Information, Access to Justice, Area Profile, etc), which can be modified and further customised to suit a local community's own needs and interests.

Information Services operates on the same principle, but is oriented to services, such as emergency facilities, important phone numbers, market prices, job lists, government schemes, etc.

The Local Database is a section for community users to post their own content on topics like local medicine, farming tips and local news. Any user can post content to the database. (Desk managers decide whether the content can be uploaded directly or if it requires moderation and approval.)

The Bulletin Board operates on the same principle, functioning as a community notice board. Users post their own messages under headings like invitations, announcements, bartering, special offers, etc.

The Opinion Poll provides users the opportunity to vote on polls created by a desk manager. Voters choose from 'Yes', 'No', 'Can't Say', 'Won't Say' and 'Irrelevant' and have a further opportunity to make comments and view the overall voting results.

The Learning Zone is a library of learning materials, educational or instructional presentations.

Communication Services include quick links to email, chat and instant messenger services. When a user selects email, for example, a pop-up window appears with links to up to four different email options, either web-based or locally installed email software.

Talk to Manager provides users a simple way to exchange messages with the local desk manager(s).

The Community Voice section was intended to highlight and facilitate the use of audio as a means of posting and receiving information. Although users and desk managers can post materials to any section of the sites using audio, Community Voice, is a dedicated section of users' audio recordings.

The Timer tracks the time that a user has spent using the system. Desk managers can set a time limit for individual sessions as well as the duration of the gap required between concurrent sessions.

The User Login mechanism permits registered users to log into the system. The Desk Manager can set the system to restrict usage to registered users or allow anyone access.

Box 18 : System requirements

eNRICH can be installed on a server or standalone computer with the following minimum hardware and software configuration:

Processor	:	Intel Pentium III or higher
RAM	:	128 MB
Hard Disk	:	8 GB
Operating System	:	Windows NT 4.0, 2000 Server, XP Professional
Web Server	:	IIS 5.0 (available in all of the above versions of Windows OS)

In a server-client configuration, Microsoft Internet Explorer 5.5 or above is required to use eNRICH on client machines.

The Desk Manager interface includes the following main features:

Site Profile permits changes to the system's names, colour scheme, font size, timer options and identity/password settings; a desk manager can also turn on/off the requirements for moderation of users' postings to different elements of the site and registration of users. Site Profile also contains Language Manager, a tool permitting eNRICH's 550 odd fields (words and phrases) to be translated into other languages and scripts.

User Profile controls the user profile fields (name, age, address, education attained, marital status, occupation, etc) required when users register. eNRICH comes with short and detailed user profile templates. Profile variables are used in generating reports on usage.

Information Resources and Information Services sections enable a desk manager to define and create categories and sub-categories (e.g. Health/Malaria/Tips for Prevention) and to load content (e.g. a scanned brochure or a radio programme) and create links to web URLs (e.g. health sites with information on malaria, land registry or passport forms, etc) within them.

The Local Issues section allows a desk manager to add new categories and moderate content posted by users to the Bulletin Board and Local Database sections; also to add new editions to Opinion Poll and Message of the Day sections.

The Communication Services section enables a desk manager to control the links available under Chat, Email and Instant Messenger as well as headings under Community Voice; the section also includes the Manager-User communication system through which a desk manager reviews and publishes (or rejects) content posted by users and receives and responds to messages from users.

The Learning Zone area allows a desk manager to load and summarise web-compatible learning materials (e.g. modules from CD-ROMs, interactive tutorials, PowerPoint presentations, etc).

Analysis services allows researchers to select variables from the user profile and produce reports using tables, bar and pie charts as well as full navigation trees of categories/sub-categories/links.

Box 19 : User profile

Kalyani, Namma Dhwani Desk Manager – October 2004

Kalyani is a paid worker in the Jagruthy Local Resource Centre and a volunteer at the Namma Dhwani (Our Voice) Community Multimedia Network (see Chapter 4) and performs the role of a desk-manager. With parallel mandates to source and disseminate information content, eNRICH has been an invaluable tool for both centres. eNRICH is installed on the centre's server located in the resource centre on the ground floor and available on the eight computers that are part of Namma Dhwani's local area network.

As a desk manager, Kalyani's role is identifying information materials and appropriate content and packaging and uploading them into the eNRICH system. Kalyani also moderates the postings local users make to the Local Database, publishing them or rejecting them if she decides they are inappropriate.

Kalyani is the link between the eNRICH system and the community users and she tries to facilitate as much interaction and participation as possible. She logs into the Desk Manager interface regularly in order to manage the system and respond to users. On the top menu, she first clicks the 'New Messages' icon to check whether there are any new content postings or messages from eNRICH users in her inbox. She writes back to users, responding to questions and suggestions.

As a desk manager, Kalyani can choose from one of five colour schemes, increase or decrease the font size or make adjustments to system timer in 'Site Manager' section. A few weeks back, she chose the purple colour background, which many users did not like and so she has now changed it to light green. Using the Language Manager, she has translated a number of fields into Kannada language using English letters. For example, 'Government information' appears as 'Sarkar da mahiti' and 'Self employment' as 'Yum udioga'. Under 'Information Resources', Kalyani has added some 20 new categories and sub-categories including Education, Agriculture, Health, Government Information, Horticulture etc.

To keep the site interesting and to encourage more interactivity, Kalyani tries to put interesting and relevant questions in the 'Opinion Poll'. Last week she posed the question 'Is water resource system efficient in Budikote?' The week before last it was 'Is the Namma Dhwani school radio program doing any good to the students?'

The 'Bulletin Board' is a place for users to post and view messages, for instance about local events or invitations. Kalyani uses it to supplement users' messages by posting information under headings like 'Gram Sabhe (village council) meeting', 'Animal Camp' (medical check-ups and treatment for domestic animals) and 'Vaccination Camp'.

Using the facility under 'Communication Services' Kalyani reviews and either approves or rejects the postings made by Namma Dhwani users under the 'Local Database' section of the community browser. Based on local knowledge, users have already posted information on local medicine, a range of recipes and uses of local herbs under a category Kalyani created called 'Indigenous Knowledge'.

Srabani, Nabanna Community User – September 2004

Srabani is an information agent and regular eNRICH user at the Arbelia ICT centre, part of the Nabanna network in Baduria (see Chapter 1). One day, Srabani saw a wall-poster about anaemia in the centre and wanted to find out more information on the issue.

She logged into eNRICH on the front page of the browser. She first selected the 'Basic Needs' category under the 'Information Resource' section. By clicking on the category she opened up a list of sub-categories including 'Health', 'Agriculture' and 'Education' etc. Clicking on 'Health' revealed another set of sub-categories including 'Health for Women' and 'Health for Children'. Under 'Health for Women' she found a link entitled 'Anaemia'. Clicking on it opened a new window and a digitised UNICEF brochure about anaemia in Bengali (the local language).

Srabani took notes from the information in the brochure, which she then discussed with the members of her information group. In response, the group raised a few related issues about anaemia. Srabani did not have all the information readily available so she took note of the group members' questions.

The following week, Srabani revisited the ICT centre along with one of her information group members who thought she might have anaemia. Srabani logged into the eNRICH system and posted her group's questions using the 'Talk to the Manager' facility. Together, Srabani and her group member navigated to the sub-category folder containing the 'Anaemia' link. The available information was able to confirm that the accompanying group member indeed has symptoms similar to those of anaemia. Under a neighbouring link they also discovered that the appropriate medicines to treat anaemia are freely available at the local health clinic.

Questions raised through the Nabanna eNRICH system are responded to each Tuesday. The next time Srabani visited the Arbelia centre she found new information posted from the municipality doctor under the 'Anaemia' sub-category. Srabani took all the information back to her group members and shared it with them.

Major challenges

The eNRICH development process has been a means to both understand and, to a limited extent, address the complexity of working with information tools at a grassroots level. A key challenge within the mandate of making information available to prospective local users has been the need to categorise and organise information resources, in the process ensuring and balancing local relevance, legitimacy and authenticity of information.

The predefined categories and sub-categories of information resources that come built into the system (Basic Needs, Government Information, Access to Justice, etc) have not been easy for local centres to work with and most have opted to create their own structures.

Though intended to be easy and ready to use, eNRICH 2.1 has a number of significant limitations. The design has proven both conceptually and technically challenging to use for many local groups. Sites with greater technical capacity have used the software more effectively, primarily because they have been able to solve small technical problems and trouble shoot when the system does not operate as expected.

As all of the words and phrases used in both interfaces need to be translated, operationalising the local language facility is not only time consuming, but also challenging in terms of translating the meaning of technical terms. The local language system does not support Unicode and therefore is limited to non-Roman font environments.

Replication

With a high level of technical capacity and infrastructure, NIC has made effective use of eNRICH in a number of network environments, particular those linked directly to government initiatives.

- In 2003, an enhanced version of eNRICH was operationalised in a network of 487 blocks (administrative level below sub-district) across eight states in the North Eastern states of India[2]. Information resources are deployed and shared across different levels (state-district-block) of the network. The system is accessible by community members in Community Information Centres located in each block office.

- A similar version of eNRICH was used in the Akshaya project of the Government of Kerala[3], also supported by NIC.

- eNRICH was also customised for the World Health Organization as part of its Health Inter-network India Pilot Project[4] to address the information needs of health workers in community level Primary Health Centres and Community Health Centres.

The Road Ahead: Future Directions

The development of eNRICH has been a process of working towards appropriate solutions to facilitate information and communication technology usage at a community level. The process

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2 www.cic.nic.in/cicimplementsites2.asp

3 www.akshaya.net

4 www.hin.org.in

has brought together technical experts and software designers and developers with media, local technology and community groups and users in a unique partnership.

Since the deployment of eNRICH Version 2.1, the need for additional development phases to respond to limitations and lessons learned has been clear. Greater facility to transfer information between sites within small and large networks, more user-friendly language systems, including the use of Unicode, and open source technology have all been identified as priorities.

In August 2004, UNESCO and NIC were joined by One World International (OWI)[5] in a new collaborative partnership to redesign the software and integrate new functionalities based on UNESCO and NIC's experience with eNRICH and OWI's with Open Knowledge Network[6] a content sharing network initiated in Africa. The new development process will result in OpenEnrich 4.0, which will be built using open source tools and released as an open source product.

Based on the respective strengths of the different systems, key elements in the OpenEnrich plan include a streamlined architecture and interface system, Unicode compatibility, and most significantly an ability to share content between sites and networks, using technologies ranging from floppy disks to satellite systems.

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5 www.oneworld.net

6 www.openknowledge.net

Sitakund youth map resources and information-communication networks in their town: Young people are the main stakeholders in the YPSA ICT Centre. Facilitated by applied ethnographic research tools, the centre has developed around their needs and interests. Alongside diaries, user logs and interviews, mapping has been an important tool in planning and analysis, building awareness and participation. Photo credit: Young Power in Social Action (YPSA)

YPSA YOUTH ICT CENTRE

At a glance

Young people are building ICT skills in an open learning environment. The YPSA Youth ICT Centre provides the area's youth with a relatively free and creative space in which to learn and apply new skills. The centre facilitates greater access to information and communication tools within the context of social and economic development.

Location
- ○ Middle Mohadebpur, Sitakund Municipality

   Sitakund Sub-district, Chittagong District, Bangladesh

Participants
- ○ Male and female poor youth and adolescents in the Sitakund area; aged 15–28

Facilitating agency
- ○ Young Power in Social Action (YPSA)

History
- ○ YPSA has been working in the Sitakund area for about 20 years. The ICT project was initiated in February 2003 and the centre set up in March 2003.

Background

Concept

Young people in rural areas are an important force in changing the conditions underlying poverty and in facilitating social and economic development. By improving their access to opportunities, the ICT centre initiative aims to empower young people and adolescents and enhance their role in confronting social problems and making positive social changes within the community.

Young people in Sitakund generally lack formal organisations and facilities through which they can voice their concerns and fulfill their aspirations. The centre works as a social platform for disadvantaged rural youth to overcome barriers like gender, caste and religion through participatory co-curricula and extra-curricula activities, free of any discrimination or inequality.

The core objective behind the initiative is to enable marginalised young people through training in ICT skills, access to computers, internet and multimedia facilities. The centre's programmes are designed to equip participants with practical and applicable ICT skills in order to learn more effectively and to participate more fully in their communities and more broadly in society. The centre has created a unique community space in which youth can explore new relations and ideas, as well as new livelihood opportunities on the basis of ICT skills.

The project is also in line with Bangladesh's National ICT Policy and the Intermediate Poverty Reduction Strategy Paper, both of which identify ICT as tool to be used in national development.

Location

The ICT Centre is located in the Middle Mohadebpur village of Sitakund municipality, part of the Sitakund sub-district in the Chittagong district of Bangladesh. The municipality is some 40 km from Chittagong city, an important port and the second largest city of the country. The Sitakund sub-district is bordered by hills to the east and the Bay of Bengal to the west.

Box 20 : Media and technology access in Bangladesh

For every thousand people

- 7 televisions
- 4 land phones
- 1.5 computers
- 1 mobile phone
- 25 newspaper readers

Source : Digital Dividend, 2001

Context

The Sitakund sub-district is home to one of the biggest ship-breaking industries in Asia. It also has a large ecological park and is a sacred pilgrimage site for Hindus.

The total population of the sub-district is 274,903. It is a multi-religious and multicultural region, with indigenous people living in the hills and fisher communities by the sea. In the plains in-between, Muslim, Hindu and Buddhist communities co-exist.

Agriculture is a central source of livelihood, however many, including the majority of indigenous people do not have land of their own. Fishing as a source of livelihood is increasingly unprofitable.

Sitakund has very limited basic infrastructure in areas like communication, primary education and health. 85 per cent of total villages and 65 per cent of total households of Sitakund have electricity supply.

The overall literacy rate is 41 per cent. Facilities for primary education and health are distributed unevenly throughout the region. Only 55 per cent of children have access to education. Very few children from the indigenous community go to school. This deprivation has led to higher than average rates of illiteracy and unemployment. Facilities are poor at the local health centres and the fisher community does not receive any health care.

Portrait

The Youth ICT Centre was established through an YPSA project – *Youth-led Poverty Reduction through Digital Opportunities.* The centre is linked to YPSA's grassroots development network, which works to address root causes of poverty through a range of programmes in key areas of social and economic development: education, health, micro-finance, grassroots organising, etc. With a history of working for development in Sitakund dating back some 21 years, YPSA foresaw that an ICT initiative would increase employment opportunities for young people and connect them to the 'knowledge society'.

The ICT centre was set up in an easily accessible locality of Middle Mohadebpur in the Sitakund municipality. The centre is open from 9 AM to 5 PM. The centre is made up of two rooms, one used for ICT skills training and access to computers and other equipment, the other for issue-based discussions and cultural and recreational activities.

The centre prioritises the participation of poor and marginalised youth. Participants are selected based on interviews and homes visits, conducted as part of the ethnographic action

The computer room at the YPSA Youth ICT Centre: Initially intended primarily for skills training, computers are increasing used for internet access and multimedia applications: photography, desktop publishing and audio-video production. As everywhere, the demand for computer training is huge, largely in response to the perception that computers are essential in the job market. The ICT Centre is unique in that it provides access for practical applications. Photo credit: YPSA

research process. Families that do not have more than one or two earning members and whose income is less than 50 BDT (about USD 1) per day participate at no cost.

Over the course of the first phase, the centre developed two training programmes: the basic foundation course and a more advanced programme. A structured syllabus for both levels of the training has been drawn up and a training handbook has been developed. The handbooks are photocopied and given to the participants.

At the end of the basic course, youth participants are at ease with the centre's computers and can use the Microsoft Office suite: Word, PowerPoint, Excel, and Publisher. They have been introduced to the internet and email and can type in English and in Bengali using the Bijoy software and keyboard. The advanced course goes into greater detail and more advance applications of MS Office, email and internet software. Examinations at the end of the courses assess participants' learning.

Based on demand and lessons learned, changes have gradually been made to the curricula. One important development has been an increased focus on multimedia skills: using CD writers and scanners, still and video cameras as well as photography and publishing software (e.g. Adobe Photoshop and Illustrator).

Typically the project deals with 40 trainees at a time to ensure quality learning. Each training course takes about three months to complete. The centre holds four sessions each day. Participants train together in groups of five, in classes every other day lasting an hour and half. In November 2004, 40 students were in training, 30 in the foundation course and ten in the advanced course. The centre provides practice facilities after the course to strengthen participants' skills.

In the initial stage, an NGO specialising in computer training was contracted to train the participants with two professional trainers. Afterwards, to reduce the costs, the project appointed a full-time trainer to conduct the training courses with the support of international volunteers. The trainers also build the capacity of the project team to manage the centre's day-to-day operations and assess the suitability of different hardware and software applications and to develop and maintain the centre's systems, including a website.

In the first phase, 180 trainees completed the basic course, which was offered free-of-charge. In the second phase, a staggered system has been introduced in which some 25 per cent are paying participants. The cost is 1000 taka (about USD 18) for the foundation course and 1400 BDT (about USD 25) for the advanced course; payments are made in two installments. The new structure helps to subsidise access for poor youth and cover part of the centre's operational costs.

Alongside training programmes, the centre also conducts awareness activities that target a variety of stakeholders. Posters have been created in English to spread awareness about ICTs among development organisations and activists. Brochures were developed in Bengali to reach local groups and individuals. Group meetings and discussions are held regularly in

the centre with the local youth and adolescents, youth clubs and civil society organisations about the potential of ICTs as a tool for development and poverty reduction. Group meetings are also arranged among grassroots groups in YPSA's more remote working areas.

Broadening the scope of skills and activities beyond computers, and building on YPSA's experience with participatory video, the project team has introduced training in video recording and production in order to provide youth participants with the opportunity to express their concerns and raise locally relevant issues.

A largely unintended outcome of the project that has gained increasing significance is the emergence of the facility as a social community space, with activities based on the interests, demand and inputs of youth participants. The centre is gradually expanding from a technology and training orientation into a more multipurpose facility. As the programme continues and participants socialise more freely and engage in more non-formal learning and cultural activities, the network is becoming wider and more diverse, more skilled and assertive; it is crossing more and different traditional social boundaries and barriers and making stronger links to development and poverty reduction programmes.

Table 8	
Expenses (March 2003 – March 2004)	**USD**
Equipment & facility: desktop and handheld computers, scanner/printer, digital camera, webcams	11,882
Connectivity: dial-up	4,125
Personnel: coordination/research (1), local staff (2); technical support	3,750
Research & field costs: transportation, accommodation	2,000
Awareness materials & workshop costs	2,400
Running costs	2,300
TOTAL in US dollars	**26,457**

Women participate in an awareness meeting on ICT at the Centre in Sitakund: An important objective of the centre is to create awareness about ICTs among the local population, particularly youth and women from poor and marginalised families and local civil society groups. How do ICTs work? What do they do? How do they fit into the local environment? How can local people tap into the benefits? Photo credit: YPSA

Facilities

<table>
<tr><td colspan="2" align="center">Box 21 : Media mix</td></tr>
<tr><td>○</td><td>Computer centre for participant training and access</td></tr>
<tr><td>○</td><td>Digital still, video and web cameras</td></tr>
<tr><td>○</td><td>Basic audio-video production facilities</td></tr>
<tr><td>○</td><td>Handheld computer</td></tr>
</table>

Table 9	
Equipment	
Computers & peripherals:	
Desktop: Assembled – PIV 1.8GHz, 256 RAM, 40 GB	5
Server: Assembled – PIV 1.8 GHz, 60 GB	1
15-19" monitor – Compaq	6
Handheld – Toshiba E330	1
Inkjet Printer/Scaner/Copier – HP OfficeJet 4L	1
Modem	1
CD writer – ASUS	2
USD portable media – 32 MB	1
Webcam – Logitech	1
Media:	
Digital Camera – Sony DSC-P31 – 2 Mega Pixel	1
Audio Recorder – minicassette	2
Other:	
Generator – 3 KVA Diesel Generator	1
Software:	
Windows XP operating system	
Microsoft Server	
Microsoft Office	
MacroMedia Dreamweaver	
Adobe Acrobat	
Adobe Photoshop	
Adobe Premiere	
Netscape, Internet Explorer	
eNRICH	
Bijoy 2003 Bengali font	
Multimedia resources:	
Mircrosoft Encarta 2003	
Multimedia Bengali Tutorial on Adobe Illustrator CS	
Multimedia Bengali Tutorial on Adobe Photoshop 8.0	
CD Versions of Bengali Computer Magazines	
TOEFL Tutorial CD	

Use of facilities

Although the primary focus of the centre remains computer training, other activities and services have developed gradually according to the participant's needs and interests and through the linkage to YPSA's development programmes.

The centre has a small library of books and magazines about computer education and on information technology in Bengali. The CD versions of computer magazines in Bengali have proved to be useful in the training process.

Alongside training, the computer facilities are also used by the young people to practice their skills: primarily word processing, internet and email. There is an increasing interest in the centre's media tools. Building on YPSA's participatory video programme, the multimedia facilities have been used to edit videos. The computers have also been used to put together a brochure and poster on ICTs that are part of the centre's awareness programmes.

Social and cultural activities have become more and more regular, prominent and valued. As part of the emerging social network centred on the ICT facilities, Tuesdays and Thursdays have been dedicated as recreation days in the centre. Among other activities, the participants watch documentary and recreational movies, play video and other in-door games.

Participants

The participants are mostly between age 15 and 28. Of the 200 selected participants in the first phase, 180 completed the centre's training programme; 20 dropped out along the way. Of the 180 in the first three batches, 103 were male and 77 female.

The centre is aiming for a mixture of paid and unpaid participants, the former subsidising the latter. Out of 40 students enrolled as of November 2004 in the second phase, 30 are from among poor and disadvantaged rural youth; the other 10 participants are able to pay the course fee.

Selection of participants are being made to ensure that poor youth, girls in particular, are encouraged to come to the centre for training. The profile and feedback forms filled out by participants are regularly analysed in order to assist in identifying and refining appropriate strategies to motivate potential participants in the project.

Participants in a music session: Cultural and recreational activities have become essential features of the centre. Building on YPSA's history in the area and a strong relationship with local youth, the centre has adapted to suit the needs and interests of participants. It has become a unique space in the community associated with new ideas and opportunities; boys and girls mix freely, training is practical and learner-centred and education, development and fun all have an important place. Photo credit: YPSA

Box 22 : User profile

Ashraf

Ashraf is a student of the 'Foundation Course on Computer Operation'. He is Muslim and 20 years of age. He studied up to class nine, after which he dropped out of school. He lives with his family in the Middle Vaterkhil village of Sitakund. His father sells fish in the Sitakund market. His mother is not working. Ashraf has seven brothers and one sister all living together in a joint family of 14 members. Ashraf has a congenital disability in one of his legs. He came to the ICT Centre through another local YPSA programme, which has a major focus on disability. Through the YPSA programme he attended a six-month training course on poultry farming at a government training centre for the disabled. He now runs a poultry farm of his own. Ashraf also participated in computer training in the ICT centre, which has motivated him to pursue more opportunities in the field of communication technology. Ashraf now has more confidence and believes that physically disabled people can be as equally competent and effective in their use of ICTs as their able-bodied counterparts. He is now studying mobile phone repair in a private firm, alongside his poultry business. Ashraf is also taking the ICT Centre's four-month training programme on participatory video. In one of his interviews Ashraf says "…my experience and learning in YPSA ICT Resource Centre has taught me that technology can make a man's life much easier. I wish to learn technology as much as possible to make my and other people's life as easy as possible…"

Rani

Rani is a student of the 'Foundation Course on Computer Operation'. She is Buddhist and 17 years of age. She lives in the Pathichila village of Sitakund. Rani lives with her immediate family of eight members. Her father is the only earning member of the family. He is engaged in agricultural work. Rani passed her secondary school exam in 2003 with a C grade. She could not continue formal studies due to financial reasons; however she attended a sewing course sponsored by YPSA in 2003. When she came to know about the YPSA ICT Centre, she visited the facility and asked to join. Alongside the computer training course, Rani is also taking the four-month programme on participatory video. Rani spends long hours at the computer trying to find out new things by herself. In an interview she says "…in the centre from the very first day up till now Debu bhai always said that what you are learning here can not only be used for the purposes you've learned but also to any other aspects of your life. It depends on your own innovation. I want to use the computers and video camera to bring peace into everyone's life…"

Insights
Research

The ethnographic action research approach has been used in a complementary fashion with YPSA's own monitoring and evaluation practice.

In-depth interviews, home visits and participatory mapping exercises have been instrumental in understanding poverty in the local context and subsequently in the selection of participants.

Field notes and daily observation are used in ongoing programming development. Feedback mechanisms involving all the participants also help to shape the intervention better in response to young people's needs.

The project has been developed as a pilot to both demonstrate and better understand the potential of grassroots ICT applications in Bangladesh. YPSA's initiative not only provides access to digital tools for rural youth and their families, but through a cycle of action and reflection, the project process examines and learns from experience, building greater understanding of the real impact of introducing ICTs as tools within a socio-economic and cultural development context.

Research themes:

- ❍ Young people, media and communication networks – How do the different ICTs and media fit into the lives of young people and their communication networks?
- ❍ Aspirations of young people, social mobility – What role do ICTs play in the plans and aspirations of the young people of Sitakund?
- ❍ Young people's rights to information and communication – What opportunities exist for the young people to voice their concerns and shape their own policies?

Research methods:

- ❍ Social mapping
- ❍ In-depth interviews
- ❍ User feedback logs and forms
- ❍ Participant observation and field notes
- ❍ Diary writing – on specific topics

Box 23 : Research sample

Action Researcher's diary July 09, 2003

3.00 pm. 2 girls of Shekhpara have just arrived. One of them I've interviewed before at their village. The other one was absent while I took the interview but I was told about her, that she is also interested to come. They came the day before yesterday at about 4.30 pm, without any prior information. That day we just got introduced then & I gave them a brief idea of YPSA & our project initiative. They are some kind of relative to one of our REFLECT Circle facilitator (The circle has now expired). Today they came at their own. One of them is presently studying at class 12, the other one just finished her SSC exam & in on a vacation now. The younger one is much smarter among the two. Talking to them revealed that they both had computer science as their optional subjects but they know almost nothing about computers. The younger one, Saira, took computer subject as optional but left after a few months for the following reasons: If only they get an A+ grade in the optional subject, then the board will add a C grade from it to the total marks. She found that there's no chance she's going to get an A+ in computer science. It is because –

○ The teacher of computer science remained absent in most of the classes.

○ The classes were very irregular. Most of the classes were abundant because of some unexplained reasons.

○ The teacher didn't teach well or didn't bother to teach well.

○ She never had the opportunity to touch a computer.

The senior one (who still have computer science as an optional subject) Samira, have been studying computer science for the last one year. They have a total of 100 marks in computer science of which 40 marks are in practical. But neither the theory nor the practical class includes any kind of Computing. That means there is nothing as practical computer handling. She never used a computer before. Her practical classes include answering a short viva, writing down two questions & a few drawings. I asked her if I could see her practical note book, but it is now in hand of the examiners. She had the same kind of complains. Like the teachers are irregular, numbers of classes are very few. They had only eight classes in entire 1st year. The teachers are also too much irregular. Later on she could recall that she heard there were two classes in 1st year where the students were permitted to touch the computers & they taught something but she was absent in those classes. She knew the name of key board, sound box & mouse. She also knew that Charles Babbage is the name of the inventor of computer. None of them is good in English. Acronyms were driving them crazy (e.g. YPSA, ICT, UNESCO, CPU, UPS). It took me almost 10 minutes to teach the younger one how to operate mouse. She couldn't feel easy in operating it till the end of the class. They were exited to have possession to use the computers. The freedom to start the computer & MS word & close the computer by themselves gave them some real useful confidence. At the end of the class I told them to write down their experience. It was totally unexpected to them. I repeatedly had to explain to them that they can write whatever they wish. The younger one wrote a lot more then the older one.

Impact on poverty

In a nation with only one and a half computers for every thousand people, rural areas are almost completely devoid of ICT skills or awareness. Although there is little evidence of direct impact on poverty, at least in strictly economic terms, the YPSA Youth ICT Centre has made an important foothold for ICT usage and experimentation and a start in bridging the digital divide between the rural and urban Bangladesh.

The initial objective of the centre was to train youth in IT skills that would lead them to employment. Although participants' new skills have provided marginalised youth with more marketable skills, the market remains small and largely inaccessible. As significant as the skills, perhaps, is that participants generally have greater practical understanding of the world of computers and information and communication technologies, and with it greater confidence to face the challenge of earning a living.

The centre is gradually increasing the capacity of the local community, not just through the availability of new ICT facilities, access to information and skills among the area's youth,

but also through the creation of new and markedly different social spaces and networks that have the credibility and organisational support of YPSA behind them. The network continues to be fostered as an equitable and non-prejudicial environment that spans a range of participants, boys and girls from different religious, ethnic and socio-economic groups, forging unique horizontal linkages across the community's youth populations and their families.

Though largely unintended in the original design, the centre has developed important cultural and social functions. Participants are encouraged to create and participate in a variety of activities under the centre's banner, from debate and drawing competitions to music sessions. Weekly entertainment programmes like movie shows and computer games go some distance in ensuring that disadvantaged rural youth and adolescents have access to a healthy recreational facility and activities.

The centre provides a unique platform that brings together disadvantaged rural youth, to a great extent overcoming gender, caste, religion and social barriers, in a cooperative, participatory network. Following from their exposure to the centre, with greater confidence, new skills and higher levels of awareness of local development issues, young people are increasingly active as voluntary, self-motivated participants in local development activities. As active participants in the initiative's research process, the youth are in a better position to analyse their own poverty situation, propose solutions and to utilise the information and communication tools and resources at their disposal.

Participants' interest in the communicative possibilities of ICT as media tools and the demand for multimedia training is a good indication of the significance and value placed on the type of opportunities for socialising, creativity and expression that the centre provides. Through their exposure to new tools, activities and interactions at the centre, young participants are gradually developing articulation skills and greater confidence to use them.

Education represents another emerging priority focus. The centre's training programme complements local school and college curricula, which include both compulsory and optional computer science courses. In contrast to most schools and colleges, which lack sufficient infrastructure and are largely theory-based, the centre uses a hands-on approach to training and provides opportunities for participants to practice, experiment and apply their skills in a multipurpose facility.

The Road Ahead

The centre has gradually started to offer paid services and develop a stronger volunteer component in an effort to generate income and keep operational costs to a minimum. The centre is also planning to introduce additional awareness raising activities, such as ICT camps and fairs, in YPSA's working areas and among the community-at-large as well as more participatory activities (competitions, mapping, etc) for members of the centre's youth network to gradually build wider and more regular community involvement and a greater sense of local ownership.

Guided by the ethnographic action research approach, the centre's experience to date and the strong interest of participants in multimedia has led to a decision by YPSA to increase the focus on multimedia training and introduce new media production facilities and distribution channels: video and audio production for cable television, cassette narrowcasting to local groups and eventually, when government regulations permit, FM broadcast. The objective is to expand the platform for rural disadvantaged young people and adolescents to express their ideas and concerns and open up spaces for dialogue among the wider community. The next phase of the centre's development will also include new training and organisational capacity building in order to move towards a higher degree of independent community management with YPSA in more of a back-up role.

Box 24 : Partners
Young Power in Social Action (YPSA) is a youth-led and youth-focused social development organisation working in Chittagong, Bangladesh, since 1985 (International Youth Year). YPSA also works with a wide range of the local community, including disadvantaged women and people with disabilities. YPSA works to increase awareness and improve the skills of women and youth to facilitate their own development and participation in the wider community.

Related materials:

Publications

Research on ICT Innovations for Poverty Reduction,
by Don Slater and Jo Tacchi. UNESCO, New Delhi, 2004.
http://unesdoc.unesco.org/images/0013/001361/136121e.pdf

Ethnographic Action Research: A User's Handbook,
by Jo Tacchi, Don Slater and Greg Hearn. UNESCO, New Delhi, 2003.
http://cirac.qut.edu.au/ictpr/downloads/handbook.pdf

Films

Networking change: Creating opportunities through ICTs,
by Radhika Kaul Batra. UNESCO, New Delhi, 2004. 29 minutes duration.

Women and ICTs: Mediating social change,
by Radhika Kaul Batra. UNESCO, New Delhi, 2004. 14 minutes duration.

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