LOCAL
INFORMATION
NETWORKS

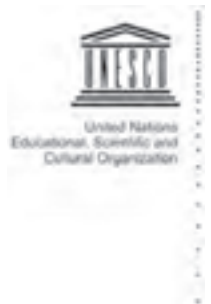LOCAL INFORMATION NETWORKS

SOCIAL AND TECHNOLOGICAL CONSIDERATIONS

Livros Grátis

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Social and Technological considerations

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Disclaimer

Acknowledgements

Foreword

UNESCO's vision of a knowledge society is where everyone has access to information that is relevant to them and where everyone has the opportunity and skills to use this information to meet their needs and aspirations. With the large scale development of ICTs, mankind now has the unique opportunity to use technologies to create equitable societies.

This publication aims at understanding the nature and importance of various configurations of social and technological networks in community settings that combine to form a Local Information Networks (LIN).

In this study LINs are conceptualised as comprising of two very different elements: one social, the other technological. Disaggregating the social and technological dimensions of local information networks helps us to understand how they work in practice and how they might be strengthened to bring greater social and economic benefits to the poor communities in which they are located. Hence, in both a practical and theoretical sense, a local information network can be thought of as a larger living field of social connections and communicative that determines the nature of information flow.

On the technological side, the ICTs respond to specific local information needs expressed by recipient communities. On the social side, the combination of technological and human capacities embodied in a given intervention is superimposed upon a pre-existing field of social relationships.

The three initiatives have been selected for the ways in which they demonstrate the use of social and technological elements within the local environment. Namma Dhwani and Nabanna were established through UNESCO's Information and Communication Technologies for Poverty Reduction project, developed under UNESCO's crosscutting theme on the eradication of poverty, especially extreme poverty. Akshaya on the other hand, is a State Government of Kerala initiative aimed at ICT literacy.

The study concludes with the understanding that the technical dimensions of communication can never be fully divorced from the social if ICTs are to genuinely reach the poor with the information they need. Investment in social networks is critical since traditional forms of communication like word-of-mouth remains the most powerful, intimate and effective form of communication available to the very poor. The study also highlights the importance of local content production and the need to involve communities in the content creation process as key to achieving success is the quality, reliability and relevance of the information communicated.

The process-oriented ethnographic action research methodology used for this study, illustrates through anecdotes and examples how vibrantly and intricately social and technological elements can meet and merge to create knowledge societies. UNESCO recognises the need for in-depth, long-term research and this process continues involving a range of partners and I look forward to more insightful publications in the future.

The efforts of the UNESCO New Delhi project team is also appreciated, notably Tarja Virtanen and Ian Pringle for their guidance and overall concept development. I also sincerely thank the communities and project staff at the three initiatives for their active and enthusiastic participation in this effort.

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1. Introduction

1.1   This case study of Local Information Networks, or LINs, is aimed at understanding the nature and importance of various configurations of social and technological networks in community settings. It focuses on the experiences of a number of pilot initiatives that fall under UNESCO Information and Communication Technologies for Poverty Reduction project, developed under UNESCO's crosscutting theme on the eradication of poverty and the global pilot project in the development of Community Multimedia Centres. Each multimedia initiative was specifically tailored to identify local information and communication needs as they relate to processes of poverty reduction. Intrinsic to the program has been an awareness that such activities need to be continuously monitored, assessed and developed in order to accommodate the changing community needs and aspirations. This study reflects that process and supplements routine project monitoring with more focused research and evaluation.

1.2   The LIN study refers both to the concept of a local information network and to the various concrete forms they may take in different local settings. Hence, in both a practical and theoretical sense, a local information network can be thought of as a living field of social connections and communicative interactions that occurs with specific settings. The aim of each of the separate initiatives promoted through the program is to act as a critical node in the specific local information networks of communities, as well as individuals. Further, participation in networks has long been recognised as critical to ameliorating the vulnerability of the poor since networks often act as key social safety nets. A critical aspect of offsetting risk for the poor is access to information, and information that is beneficial to poverty reduction often circulates within networks, for example information concerning social welfare, health or education. With the advent and increasingly rapid diffusion of new ICTs to poor communities social networks are quickly adopting technological dimensions.

1.3   In this study LINs are conceptualised as comprising two very different elements: the one social, the other technological. Disaggregating the social and technological dimensions of local information networks helps us to understand how they work in practice and how they might be strengthened to bring greater social and economic benefits to the communities in which they are located. On the technological side, the ICT facilities provided by UNESCO are a response to specific local information needs expressed by recipient communities. On the social side, the combination of technological and human capacities embodied in a given intervention is mapped onto a pre-existing field of social relationships. It is important for such interventions to recognise the social dimensions

of their initiatives, not just in terms of the human resources that can be encouraged to participate in them, but in order for them to maximise their capacity to achieve the community's expressed goals of enhanced communication and access to information. The specific ways in which these two elements, social and technological, are integrated constitutes the core of the local information networks discussed in this study.

Aims of the research

1.4 Undertaken between December 2004 and May 2005, the LIN research aims to provide a composite picture of how innovative technological solutions to the communication and information needs of poor communities operate within any given social context. The pre-existing cultural and social environment onto which these technological initiatives are mapped – their communicative ecologies – is discussed more fully in the section covering the LIN research methodology. The number of sites selected for inclusion in this case study was limited to three. Using the data from the three individual initiatives, the case study aims to provide a composite illustration of how local information networks operate on a practical day-to-day level. Each of the sites is unique, in that no two interventions are the same. Many changes have taken place in each of the initiatives since the time that the LIN research was conducted. However, the aim of this publication is to indicate those features common to the chosen initiatives from which we can draw a range of conclusions. From a research point of view, the differences between the sites are as interesting as their similarities. They reveal rich insights into the feasibility of particular initiatives and their reception in specific community settings. In highlighting the weaknesses and strengths of particular initiatives, the findings of the LIN research as presented here may be instructive for community groups, policy makers, donor organisations and NGOs contemplating similar initiatives in other parts of the developing world.

The research methodology: LIN and EAR

1.5 The LIN case study uses a methodology known as Ethnographic Action Research (EAR).[1] EAR is specifically designed to complement community multimedia

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1   Tacchi, J., Slater, D. and Hearn, G. (2003) *Ethnographic Action Research: A User's Handbook*, New Delhi, UNESCO. http://cirac.qut.edu.au/ictpr/downloads/handbook.pdf. See also Fildes, J. (2006) *Participatory techniques for poverty and information needs assessment*, University of Adelaide.

initiatives in developing country settings. It is also ideally suited to the purposes of LIN research in that it is applied in character, action-orientated and ethnographic. As a research methodology, EAR combines ethnographic data-gathering techniques and procedures with participatory action research to ensure that the research is practical, based on direct knowledge of the local situation and flexible, in that it can accommodate participants' feedback. EAR is a process-oriented approach to research that stresses both researcher involvement and community participation at all stages of the research process. It incorporates procedures that are cyclical in nature, starting with planning, then acting, observing and reflecting. While this may appear as a fixed chronological sequence, in reality it is often a series of processes that may overlap or occur simultaneously. For instance, it is often possible – indeed necessary – for the researcher to act and observe at the same time.

1.6   EAR is fundamentally connected with the concept of communicative ecology. Communicative ecology refers to the entire field of communicative linkages and connections within a given community. It includes both technological linkages based around different forms of media, such as electronic or print media that serve to link local people with the broader regional, provincial, national and global community in which they are placed, as well as social links that connect local people with one another. These are not separate systems: technology-mediated links can facilitate social connections between members of the same community; between those of different communities; and, if conditions permit, they can do so at either short or long ranges. Conversely, the repertoire of media available to a local community is unable to facilitate communication or networks of knowledge in isolation from the people who use it. The ways in which a particular medium allows users to interact with one another, to explore traditional and new forms of knowledge, to invent new ways of interacting and to create new cultural content is of far greater significance in terms of providing the means through which local people may be able to overcome poverty and to resist their exclusion from the emergent knowledge economy. Thus technological means alone may not function as effective communication channels unless they are being harnessed by human agents to serve a social purpose.[2]

1.7   For the purposes of the LIN research, therefore, a primary distinction can be made between communication networks that are mediated by technology, and those that are not. The former tend to involve various media components, or mixes, while the

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2   See Slater, D. and J. Tacchi. (2004) *Research: ICT Innovations for Poverty Reduction*, New Delhi, UNESCO. http://cirac.qut.edu.au/ictpr/downloads/research.pdf

latter involve and express social connections between community members, both as a group and individually. The distinction is only relative of course, since in practice social and technological connections overlap – neighbours run into one another just walking along a road; co-villagers may meet up on a train; locals may learn of a relative's death via the post; young people may fall in love over the Internet. Nonetheless, it is useful to maintain a conceptual distinction between the two categories, particularly when trying to identify the particular communicative ecology of a local community. For ease of reference, the terms TIN or technology-mediated information network, and SIN, social information network, will be used to differentiate between them. A further distinction can be made within the social information network category between formal and informal SINs, although here again, the distinction is conceptual rather than actual. In practice these categories overlap and interpenetrate each other. A brief description of all three terms is provided below.

Terminology

1.8   The term technology-mediated information networks (TINs) covers communicative links provided by a whole range of media, both electronic and infrastructural. It therefore includes all forms of transport available within communities, postal and telecommunication infrastructure, traditional forms of mass media such as newspapers, radio and TV, as well as the new electronic media as represented most prominently by the Internet. As this case study will show, some of the most innovative developments in electronically-mediated information networks are happening on the peripheries of the ICT mainstream world, for instance, community radio delivered via cable; the creation of local video and radio-broadcast content; on-site community awareness programs mediated by laptop computers; and local radio via public loudspeaker, to name but a few. Many more innovations are in the offing, hampered only by funds and the available quantum of human labour – usually voluntary – to operate and sustain the systems.

1.9   Unlike the TINs described above, social information networks (SINs) can be thought of as being primarily mediated by human agents operating within a social milieu. Social information networks may be either formal or informal in nature, their common feature being that they consist of human beings engaged in social interactions. In social information networks, the dominant medium of communication is the human beings themselves. Increasingly, social information networks are adopting technologies, such as mobile phones or the Internet, that help them to mediate, extend and enhance those social interactions.

1.10   Social information networks are often based around cultural or social institutions, both traditional and modern. These can include, for example, kin networks, caste groupings, religious communities (often as subcultures of the wider community), political associations and professional or employment-orientated associations. Two forms of social information networks are therefore evident. Formal SINs are networks that have a legal or formal structure. They are named, recognised entities, often legally incorporated, with explicit procedures for communication (e.g. meetings, newsletters etc), decision-making and the dissemination of information. They often have executive bodies and a foundational constitution of some sort. In general, they comprise social networks based on employment, administration, political groupings, clubs and societies, educational institutions and a host of government agencies such as health services and rural development agencies. Examples include school associations, hospital boards, local councils (panchayat), craft or trade guilds, professional associations, sporting bodies, farmers' cooperatives, women's self-help groups and so on. A key aspect of formal social networks is that they are often closed institutions, such that the only means of access to them is via membership. Membership may be voluntary or involuntary; ascribed (by birth) or acquired (by purchase or through personal achievement); free or fee-based. Sometimes these dichotomies intersect, at other times they are mutually consistent. For example, the Self Help Groups so ubiquitous in rural India are voluntary formal SINs; and membership is therefore acquired rather than ascribed. An example of a formal SIN in which membership is ascribed by birth is caste: this is an immutable ascription, incapable of change no matter what the individual does with his or her life. In both these cases, however, membership is free.

1.11   Informal SINs are variable in character, depending upon such factors as location (rural/urban), size, demographic mobility, class and caste. By contrast with formal SINs, informal social information networks are characterized by apparently unstructured associations between people, in that encounters do not necessarily take place at appointed times, nor do they have overt agendas. This is not to say that meetings between participants lack focused agendas and objectives, rather, these are usually implicit and somewhat hidden. For the outsider, the principles governing informal social interactions are harder to perceive, and may escape their notice altogether. It often requires careful questioning and considerable background research before the outsider can begin to discern patterns in the informal social interactions that occur between community members. For instance, neighbourhood networks may seem like self-evident clusters of people who know one another because they live in close proximity. But this apparent basis of association may conceal a deeper clustering principle, such as kin affiliation or co-

tenancy in land tenure arrangements. Informal SINs may be far more powerful than formal ones in facilitating, or hindering, the flow of information within communities. Examples include neighbourhood clusters, kin networks, caste groups and religious communities. In addition to the possible qualities expressed earlier in terms of several binary pairs – ascribed/acquired, voluntary/involuntary – informal SINs may be either visible or invisible in character. They are never fee-paying, for the very existence of fees already implies a formal structure, immediately identifying it as belonging to the formal SIN category.

1.12   Finally, it is worth bearing in mind that a particular SIN may have both a formal and an informal aspect. For example, a kin group may be so flexibly structured in terms of marriage and residential arrangements that it appears most of the time as an informal SIN. But the fact that it also has a strongly formal character is underlined by the fact that all marriage transactions involve the deployment of rules, often previously obscure, and that there are strict procedures regarding membership (open/closed e.g. who can marry in to the clan, and who is debarred). Also there are strict rules in relation to inheritance of property, both fixed and non-fixed – rules that dictate hierarchies of age and gender and the default situations when no suitable recipient exists/comes forward or when contemporary circumstances do not accord with traditional practice.

1.13   While it may be easier to study formal SINs, by virtue of their visibility, informal SINs are harder for precisely the converse. Much skill is required simply to deduce their existence from the surface facts on the ground. A process of unearthing is called for. The analogy of archaeology is apt, in that a particular surface phenomenon, such as a neighbourhood cluster, may reflect an underlying kin network. Nonetheless, formal and informal SINs are interdependent phenomena, complex and multifaceted. The conceptual distinction made at the outset of this paper is not an absolute one; the two intersect in practice, though for analytical purposes there is some merit in untangling them in order to gauge their individual contribution to local information networks.

Three case studies

1.14   The three LIN sites have been selected for the way in which they demonstrate a continuum of communicative characteristics from a community-based initiative which is weighted towards the SIN end of the spectrum through to one weighted more towards the TIN end. The three sites focused upon are:

(i)   Namma Dhwani (Karnataka) – a network organised around the communication technology itself, in this case the medium of cable-radio. Using a community-based media approach Namma Dhwani tapped into formal SINs in the form of SHGs to form new formal social networks that would intersect with the cable-radio station, for example as members of a management committee. Members of associated SHGs form part of the radio station's program creation team. In terms of the LIN spectrum, which extends from information networks that are substantially mediated by technology (TIN) to those more dependent upon social information networks (SIN) Namma Dhwani is located roughly midway between the two poles.

(ii) Nabanna (West Bengal) – a network with a strong social focus in that uptake of technology is slow and information from the project tends to be physically delivered to participants using innovative or emerging technologies. This initiative grew out of a strong emphasis on accessing informal neighbourhood based social networks in order to understand information needs. It then sought to develop a formal social network through which to disseminate and exchange information and knowledge. Nabanna thus sits closer to the SIN end of the spectrum.

(iii) Akshaya (Kerala) – a network with a high level of 'wiring' due to government initiatives across the state. We focus on three local communities in the case study, which together provide a picture of the diversity within Akshaya as a whole. The main goal of the Akshaya e-Literacy Project has been to provide infrastructure, access and training in computer use to every household in Kerala. Hence despite the fact that its purpose is ultimately social, Akshaya's emphasis has been predominantly technological. It thus lies closer to the TIN end of the LIN spectrum.

1.15 In considering all three projects it is important to bear several general factors in mind. The first is the distinction between the Indian administrative division termed a municipality and that referred to as panchayat. While a degree of administrative power has been devolved to both regional bodies, the municipality is an urban division (a ULB - Urban Local Body) whereas the panchayat is primarily rural. Secondly, two of the three projects are built to some extent upon a pre-existing structure of women's self-help groups, or SHGs, which are poor by definition. SHGs correspond to a state-wide scheme prevalent across India in which women classified as Below the Poverty Line (BPL) may apply for government funding to establish their own micro-credit and income-generating initiatives. Thirdly, tribal and low-caste groups exist as minorities in all three of the LIN communities. Again, they are typically but

not necessarily poor, but unlike women, they are often not well represented in the LINs for reasons that have to do with longstanding practices of social exclusion and differentiation. Both tribal and low caste groups are incorporated on national government registers (schedules) which enable them to be described as Scheduled Tribes (ST) and Scheduled Castes (SC) respectively.

Namma Dhwani
Media Centre

2. Namma Dhwani Media Centre

Background: Geographic, economic and cultural context

2.1   Namma Dhwani media centre is located in the Kolar District of eastern Karnataka state, in south India. The nearest municipality is in the Thaluk (sub-district) of Bangarpet, 13 kilometres away. Budikote is the largest village in the immediate area and is the panchayat (local self-government) headquarters for the surrounding eight villages. Budikote houses 3016 people in 611 houses and is bounded by the neighbouring states of Andhra Pradesh to the north and Tamil Nadu to the southeast. The people of Budikote and the surrounding villages speak both Kannada (the official language of Karnataka) and Telegu (the official language of Andhra Pradesh) with equal ease. However, when engaging in personal conversations villagers tend to use Telegu.

2.2   The average literacy rate is around 45%, though only 20% of women are literate compared with 80% of men. Budikote has four schools in total: one combined primary and secondary school, another high school, an Urdu primary school and one private school. The total student population of 3500 children is drawn from Budikote and the 18 surrounding villages. There are 39 teachers from government and private schools making the average student-teacher ratio 90:1. The schools' technological facilities are limited. Although the high school in Budikote has approximately ten computers, access depends on the availability of electricity. In summer, electricity may be available for up to fourteen hours a day, however in Budikote, power cuts and blackouts are frequent all year round. Despite these limitations one staff member is dedicated to teach the students computing skills as prescribed in the Ministry of Education syllabus.

2.3   Budikote has one Primary Health Centre (PHC) and one private clinic. Both are only open during the daytime and after sunset no doctors are available for emergencies. The PHC has only three beds and it is often overcrowded. Although the health service is nominally free, patients frequently offer money for preferential treatment or even to be seen at all. The rainy season brings regular outbreaks of epidemics such as dengue and malaria in nearby villages, and to a lesser extent, within Budikote itself. There are only two local doctors, both of whom are male. This is a source of concern to many Budikote women who are uncomfortable discussing gynaecological and other female medical problems with a male doctor. Women may opt to not seek medical attention rather than be treated by a male physician. There is one pharmacy to cater to the villagers' medical needs. In addition to Western medicine, folk medicine represents a therapeutic alternative for many Budikote residents.

2.4   Although a minority of the community (28 out of 611 families) can be classified as either scheduled caste (SC) or scheduled tribe (ST), the village shows considerable caste homogeneity. Most villagers identify as Baljigaru, making this the predominant caste. Baljigaru belongs to the Vaishya stratum of the Hindu Varna system. This social structure is reflected in the physical layout of the village, which is segmented into different streets for different castes and/or professions. In many households the concept of caste purity is still maintained, with families discouraging caste interaction, especially with Dalits.

2.5   The majority of Budikote's population depends upon agriculture as a means of livelihood. A family's ownership of land tends to determine its socio-economic status within the community, with landless labourers representing the poorest stratum of society. In 2000 the rural NGO MYRADA (Mysore Resettlement and Development Agency), long established in the area, undertook a Participatory Rural Appraisal (PRA) to investigate socio-economic status within the community as it relates to the poverty index. The exercise showed that of the 592 families surveyed, 495 were classified as 'below the poverty line' (BPL).

2.6   An overwhelming majority (84%) of the community are Hindus followed by a far smaller group of Muslims (15%). Christians and Jains together constitute the final 1% of the local population. Budikote's four temples, a mosque and a church testify to this religious diversity.

The intervention: Namma Dhwani Media Centre – Project description and development

2.7   The media centre organisation Namma Dhwani, meaning 'Our Voice' in Kannada, the local language, was first conceived in 1999. Its core objective is to combine new and traditional technologies to produce relevant local content, in local languages that improve the quality of life for people in rural communities, especially those from poorer households. The lack of adequate communication facilities in Budikote and surrounding areas mirrored a more widespread access/communication and information gap across rural and marginalised populations elsewhere in the country. Namma Dhwani is technologically mediated as it relies to varying degrees on equipment to broadcast, discuss and challenge issues that are pertinent to local communities. At the same time it is a social information network as it relies on significant existing social networks to achieve its goals.

2.8   Namma Dhwani was introduced to Budikote through its association with the local NGO partner MYRADA. Connecting the centre with the Self-Affinity Groups (SAGs)

already set up within the village was therefore a logical manoeuvre. As structured community associations, the SAGs served as ideal reference groups for Namma Dhwani. In addition, through its connections with these 13 SAGs, Namma Dhwani gained access to extensive social networks that expressed intricate caste and kinship linkages. These in turn embodied the dominant forms and deep structure of Budikote's communicative ecology.

2.9   As well as its partner ship with MYRADA, Namma Dhwani is also partnered by the NGO VOICES (Voices of Individuals and Communities Empowering Society through Vehicles of Information and Communication Enabling Social Change). VOICES is thus fundamentally "committed to communications for social change". It has actively lobbied for community radio (CR) legislation in India and is currently concerned with the role of media and communications in promoting transparency and accountability within government institutions. Namma Dhwani represents an attempt by VOICES to stimulate the 'voice' of rural communities. In an attempt to explore the potential of community radio in India, in keeping with this ideal, Namma Dhwani collaborates with the local cable operator to produce local content, an activity which falls under The Cable Television Networks Regulation Act, 1995. The timeline below shows the growth of the initiative and the way it has experimented with different combinations of audio media and new technology since its inception in 1999. Despite this, at the time this publication was written, India still does not have in place any legislation to support and promote the development of a genuine community-based media.

Figure 1: Timeline of Namma Dhwani

Date	Activity
1999	Needs assessment
2000	Technical and skill training by All India Radio staff Programmes made by volunteers broadcast by AIR
2001	Audio production centre established in Budikote Management committee constituted
2002	Narrowcasting of programmes School cable radio established in Budikote
2003	First phase of cable radio: connection to existing TVs in Budikote Second phase of cable radio: connection to modified radio sets
2004	Loudspeaker broadcasts commenced in Kamasamudram, Dinahalli and Thorlakki Cable radio extended from Budikote to Ambedkar Colony and Kodgurki

2.10   In order to understand how Namma Dhwani works as a Local Information Network (LIN) it is important to provide details of its key innovations and activities. At the same time, we need to look at some of the challenges Namma Dhwani encountered along the way. In broad terms Namma Dhwani's experiences can be discussed in terms of technology-mediated information networks and social information networks. At times the two aspects overlap and valuable insights can be gained by analysing the interplay between the technological and social dynamics at work in the Namma Dhwani environment.

Budikote communicative ecology and social information networks

2.11   The road to Budikote feels more like a series of potholes strung together than a major arterial route. There is a regular bus service (two buses every hour) connecting Budikote with Bangarpet, the nearest Thaluk. Fares cost Rs 5/ ticket. Another two buses run daily connecting Budikote with nearby towns via the larger villages of Kamasamudram, Thorlakki and Dinahalli. Apart from the public bus service there is a privately owned shuttle bus (mini-van) that charges a similar fare. Transport of locally grown crops is also road-based. Most local produce is taken to markets in Kolar, Bangalore and Chennai. Villagers can travel interstate by rail from Bangarpet Junction. Trains run to Bangalore and Chennai five times a day, and also to parts of Andhra Pradesh, Kerala and Tamil Nadu.

2.12   The Budikote post office is located in the panchayat building. Besides sending mail, local people use the post office for depositing money in their saving accounts because it offers a good rate of interest. The village has a sub-exchange for telephones, accommodating 300 lines on a 200-line connection system. The service, though, is unreliable, and of poor quality. Moreover it does not support data connections. The village has three public telephone booths with STD facilities. Because Budikote lies in a valley, there is no mobile phone coverage. The closest Internet café is 14 kilometres away in Bangarpet.

2.13   A survey conducted in early 2002 found that 265of Budikote's 650 households own television sets and 361 own radios. Radio is a very popular medium in the region with a high level of listenership. On any given day, radio can be heard playing in most small shops. There are three radio services available in Budikote and surrounding villages: Akashavani radio comes from All India Radio (AIR), located in Bangalore; Gyan Vani is an educational offshoot of AIR; Radio City 91FM, a commercial station

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privately owned; and the most recent alternative, Rainbow FM, also comes from AIR. Hence, three out of the four radio stations locally available are transmitted by All India Radio, which underscores the limited range of choices available locally.

2.14 Provided they subscribe and pay for cable TV, Budikote people have 24-hour access to eight commercial television channels in Kannada, Telegu and/or Tamil. Cable TV costs Rs. 80 a month, although the local cable operator, Ramu, has a recurrent problem with irregular or unpaid payments and consequently claims to be running at a loss. Households who do not have a cable connection can access the state-owned channel, Doordarshan. Television seems here to stay. As one local cable operator says: '90% of the people in my village have televisions. Nowadays TV's are as cheap as Rs. 1500-2500 ($33-55). When I go for my cable fee collection rounds I see even wage workers watching TV just like any other rich person'. Though radio is widely perceived as the poor man's medium, the idea of wageworkers and landlords having equal access to the same media has great appeal among villagers. Among the range of available media, television has the greatest prestige.

2.15 Budikote often suffers from power cuts during daylight hours. Consequently, television viewing does not begin until 6.30 p.m. at the earliest. It continues until approximately 10.30 pm, electricity permitting. Except for the main street, where the market is located, most streets quickly become isolated, as everyone turns inward to listen to their radios or watch TV. The sight of school children doing their homework in front of blaring television sets is becoming ever more common. A walk through the streets and alleys of the village suggests that most households tune in to the soap operas on the Kannada and Telegu channels.

2.16 The crime segment on the Kannada and Telegu television channels, shown between 10.00-10:30 pm, is also extremely popular. The storyline of this crime serial is usually modelled on recently reported crimes. In this show, the planning process and the crime are re-enacted in detail. Most people in Budikote say that they like the provocative presentation style. One local villager says: 'When I first watched it I was so scared that I'd have problems sleeping. But since everyone around me was watching it, I forced myself to keep viewing and now I can watch it without any problems'.

2.17 There are four state-based newspapers available in Budikote as well as a Kolar-based tabloid, 'Hai Kolar', which carries district-level news. Surprisingly, despite the fact that the community is bilingual the only newspapers available locally are in Kannada. Most tea stalls and local restaurants subscribe to at least one newspaper,

although this is of little relevance to women who do not patronise teashops. Female informants said that the only way they get access to the news carried in newspapers is if their husbands deem a particular news item to be worth discussing with them. Budikote has a public library that was established by the Gram Panchayat. Literate community members can read books, journals and newspapers here. The household survey conducted in 2002 by Namma Dhwani shows that 63% of the 189 families in the sample owned tape recorders that they use to play music cassettes. Cinema music is very popular, especially among local youth. An emerging trend in rural areas is the rental of pirated Video Compact Discs (VCDs) of latest commercial movies for as little as Rs.10. The VCD store in Budikote owned by the cable operator also rents out VCD players for Rs. 50/day.

2.18 Like any small to middle sized rural community in India, Budikote has a number of identifiable social information networks that operate in specific contexts. These contexts include the various local schools, the health centre, the panchayat, the local NGOs (MYRADA and VOICES) and the various cooperative associations such as the SHGs (Self-Help Groups) and the SAGs (Self-Affinity Groups). These social institutions administer and communicate information on a range of issues.

Namma Dhwani's technology-mediated information networks (TINs)

2.19 The three key areas of Namma Dhwani's experiences that fall within the TINs category are the computer training, the production of radio content (programming) and the loudspeakers initiatives. Work in computer training centres on certified MS Office training for interested community members, though is not elaborated in substantial detail in the following case study. Rather, the focus is upon the radio and loudspeaker initiatives.

Radio programming: Content and formats

2.20 One important objective of Namma Dhwani's radio programming is that content should reflect the local community's information needs and cultural preferences. The plan was that ideas would come from all participants at the Centre, informed by their interactions with the wider community. At this time however Namma Dhwani still relies heavily on its staff and this is exemplified in the way programming ideas are generated during weekly staff meetings. Volunteers occasionally pitch in their ideas although when they participate the paid Community Resource Person invariably

guides them. The local team then contacts the necessary resource people needed to produce the program. The drawback of the system as it currently operates is that in the short term, it depends upon this small team to reflect community needs and in the long term creates ongoing dependence upon them to produce radio programs and hinders the emergence of a genuine community capacity in this regard. Nonetheless Namma Dhwani has at least partially achieved its goal of producing content that reflects local community needs and concerns.

2.21   Initially, regular live-show formats at Namma Dhwani featured set themes with hosts that were clearly identifiable with a particular show. The first was the 'letters show' hosted by Balakrishna, Manager of MYRADA's Jagruthi Resource Centre, and Mangala Gowri, then a staff member of Namma Dhwani. The feedback, in terms of the number of letters received was good with an average of 6-15 letters coming in every week. One of the main reasons for the show's popularity, as articulated by G, a member of the Shalini SHG, was that 'it makes us smile'.

2.22   When the programming schedule was originally conceived, in consultation with the community, segments like the youth chat on Monday evenings and farmers' forums throughout March 2003 were intended to serve as platforms for live discussion of relevant local issues. The potential of this idea was realised on several occasions when the hosts and those participating on air took advantage of the live shows to address issues of immediate concern. For example, in a live discussion between two farmers and the agricultural extension officer, the farmers raised the issue of subsidised seeds. These had not been made available to them. The extension officer, responding to the line of questioning, admitted that even though the scheme existed on paper the seeds had not reached the Agriculture Department. He then advised the farmers who to contact in order to pursue the matter.

2.23   Despite their popularity, the number of live spoken-word shows has remained low due to the technical challenge of producing them. Live shows arguably require better presentation, technical and planning skills that at present only a few members at the centre possess. For those programs that require the participation of government officials or resource persons from Kolar or Bangarpet, it is often not feasible for the Centre to arrange live appearances. Given these obstacles, the current trend is towards producing more of the campaign and 'special event' oriented shows that have come to dominate the live programming.

2.24   In December 2004, a show was launched that possibly challenges this trend. Hosted by volunteer Vanaja, from the nearby village of Banahalli, and Community Resource

Person (CRP), Nagaraj, the show is called 'Naavu Namma Olaginavaru' (Us and Our Inside World). Its aim is to provide a mix of both local and general information. As an enticement for audiences to listen, prizes are given to those who get the correct answers to specific questions asked during the show. Some of the shows feature local interest stories about the local wrestler who won a national award; regional or national poets; or health issues such as HIV and AIDS or tuberculosis (TB). The content is derived from sources such as the district and Thaluk gazetteers, local magazines and websites.

2.25 Another programming innovation was Namma Dhwani's idea, in response to a suggestion from many female participants, to transform itself into an all-female zone every Saturday evening. Many female volunteers and participants, both young and mature, had often complained that their men folk (fathers and husbands) would not allow them to come to the Centre in the evenings because males would be present. The solution was to have women perform all the tasks of programming and presentation without the aid of men. Even pre-recorded male voices were excluded from the programs. However, even though the show is specially designed to cater

to women's needs, female participation has been weak, possibly underlining local women's inability to assert themselves on issues that involve going out at night independently of their families. Given this restriction, the show has had to rely on a core group of highly articulate women, thus defeating one of Namma Dhwani's stated purposes, that of achieving broader based community representation.

2.26   A growing trend in regard to live shows is a preference for those that fall into the entertainment category. At the time of writing this case study, Namma Dhwani was producing four live music shows in three languages; one show on local poetry; and one on beauty treatments, every week. One of the music shows involves two community members, Muniraj and Govindappa, coming in to the station every Thursday evening with a few tapes and a rough script in hand, to host their music show, 'Anyaal Muthalu'. In Telegu 'Anyaal Muthalu' means 'old pearls'. Muniraj (30) works as a bill collector in the Budikote panchayat and Govindappa (37) is a farmer of average means. Both have a keen interest in music and poetry. They are not the first to host a music show on Namma Dhwani community cable radio, but what sets them apart is that they play only Telegu songs and speak in a pure form of Telegu. Both Muniraj and Govindappa feel that the new generation of film music has neither the rhythm nor the wisdom of the film and folk songs that they grew up with. 'If we listen to some of the songs that we heard in our heyday, even now they still have the power to bring a flood of tears to our eyes,' says Govindappa. According to him, these songs are not easily available in the music market and have therefore slowly faded away from both peoples' memory and local culture more generally.

2.27   In studying the programming patterns of Namma Dhwani and the responses of the community, it becomes obvious that live shows, both in the spoken word and in the entertainment category, generate better rates of listenership. Analysis of some 800 programs made by Namma Dhwani reveals that the narrative form was used to make 48.7 % of these programs, while 27.2% were in the interview genre. For the purposes of this case study, formats like quiz, public service announcements, station ID's, and vox-pop's are classified as interactive programming. Taken together, these make up only 4.6% of the total programming. Discussions and drama genres make up 3% and 3.1% respectively.

2.28   The main issues covered by Namma Dhwani in their programming conforms to an original programming schedule worked out in consultation with local community groups such as SHGs, teachers, doctors etc. These issues include governance, health, social issues, education, awareness, agriculture and of these, health, education and awareness appear to be the most popular.

2.29   Programs categorized under 'governance' include those pertaining to local democratic processes such as panchayat elections. Also included are information programs from the Thaluk and district government offices such as the Block Development Offices, Education Department, Women and Child Welfare Department, Rural Development Department and various agriculture-related departments. Programs relating to 'health' include those tackling general health issues, as well as those focusing upon women's and child health. Veterinary health is also included within this programming category. Those classified under 'social issues" refer to local programs that deal with immediate community concerns. These range from macro-issues such as dowry and the persistence of superstition to more immediate and relevant local issues like the problems that girls face when travelling in buses, or the experiences of community members who have to migrate to larger cities. Two categories, 'education' and 'awareness', relate to information programs. 'Education' programs refer to programs that provide non-utilitarian information, that enhance general knowledge, whereas 'awareness' programs refer to those that provide useful or practical local information. Most of the education programs were produced to provide knowledge to school students through the school cable radio initiative and included for example, programs on the atomic bomb and its origin, on the lives of poets, and on the solar system. Mostly presented in the form of a monologue, these kinds of programs constituted a one-way, top-down form of communication and tended to be didactic in tone. In any case, they are no longer being produced since the school cable radio initiative has now been discontinued. 'Awareness' programs, on the other hand, provide access to the kinds of knowledge that can be translated into practical action. These may include, for example, a drama about how to apply for loans; programs on income-generation focussing on local professions such as mat weaving and pickle-making; technical programs e.g. on how to repair a water pump; and law-related programs. Finally, the category of 'culture' includes information on cooking, such as recipes; on the significance of local festivals; on local humour; family values and so forth.

2.30   In terms of the proportion of people who have participated from within and outside Budikote in Namma Dhwani's radio programming, some 59.4% came from Budikote, while people living outside Budikote made 36.7% of the programming. Most of the latter were resource people associated with government agencies, such as bureaucrats or medical personnel. It is interesting to see the contribution to local knowledge levels and awareness that Namma Dhwani has made to the communities to which it caters, especially in the areas of agriculture and health. In agriculture alone, 62.5% of the programs were produced using resources located beyond Budikote. These farmers managed to overcome the drought using innovative cropping patters and information obtained from the Agriculture and Horticulture Departments in Bangarpet and Kolar, thus assisting local farmers to cope with drought and bridging a huge information gap.

In the area of health, 54.7% of the programs were made using the expertise of medical practitioners from beyond Budikote's borders. This has created overlaps between the communities of Namma Dhwani and remote medical agencies and increased the range and diversity of therapeutic information available to local people.

2.31   During the needs assessment conducted by VOICES and MYRADA in early 2000, one of the main reasons the community gave for having their own medium of communication was because they wanted multi-language programming. The communities in the Budikote area speak both Kannada and Telegu. The state language - Kannada - is widely spoken. 94.3% of Namma Dhwani's programming is in Kannada, indicating that it does not yet speak to the community in its most natural linguistic mode. Similarly, even though there is a substantial Muslim population of 80 families, less than 1% (0.75%) of the programming has been in Urdu. This is doubtless both a cause and effect, in that Muslims are not actively present to lobby for their language preferences due to the dominance of Hindus within the community.

2.32   Television, radio and print media are all part of Budikote's communicative ecology. In many ways, these established media directly compete with Namma Dhwani in terms of language groups targeted, social habits and broadcast times. On the other hand, Namma Dhwani has actively sought to expand the scope of media coverage by providing, for instance, 230 of the village's 361 radio sets. When the second phase of cable to radio was implemented (May 2003) Namma Dhwani provided these to villagers at subsidised rates (50 % of the cost price). The level of listenership peaked in March 2004, reaching 64.4%. The lowest level, 13.1%, occurred immediately after the theft of a digital camera from the Centre. The ramifications of this event (two young men were taken, briefly, into police custody) caused a degree of ill feeling towards the Centre among the community. The last survey, conducted in August 2004, within Budikote alone, recorded another low level of listenership, at only 27.3%.

Loudspeakers

2.33   From March 2003, Namma Dhwani introduced loudspeaker broadcasts to three outlying villages housing MYRADA Resource Centres (RCs) namely Kamasamudram, Dinahalli and Thorlakki. Kamasamudram's population is about 2000 and the community, which consists primarily of business and tradespeople, is multilingual. It is also the panchayat headquarters. Both private and government health services exist and co-educational schooling is available up to class plus twelve.

2.34 The programs supplied to each of the three RCs by Namma Dhwani last for one hour every day. The format consists of an introductory jingle, followed by devotional songs and an update on market rates for agricultural produce. The next 10-15 minutes consists of longer segments produced by Namma Dhwani, followed by content from local newspapers. The following list enumerates the programs, classified according to topic, that Namma Dhwani generated for the local RCs in the first eight months of its existence, from March through to September 2003.

Figure 2: Programme topics, RC loudspeaker initiative

Topic	PRAGRUTHI Resource Centre (Kamasamudram)	SPOORTHI Resource Centre (Dinahalli)	MYTHRI Resource Centre (Thorlakki)
Health	22	15	22
Agriculture	8	7	8
Awareness	22	15	27
Governance	2	-	2
Education	2	1	2
Law	-	1	2
Entertainment	-	5	8

2.35 The computer training offered by Namma Dhwani to the RC staff in conjunction with the loudspeaker initiative has been a very successful aspect of the initiative. Namma Dhwani installed a computer in each RC. The Budikote centre had already finalised an agreement with a certified computer training institute in the nearest town of Bangarpet and this collaboration was further extended to the three RCs. This collaboration provides certified MS Office training for interested community members. It is an income-generating opportunity for both the RCs and Namma Dhwani. Subsequent to the training, four of the 12 trained students found jobs requiring computer qualifications.

2.36 The loudspeakers in both Kamasamudram and Dinahalli are situated near tea stalls, which are largely the preserve of men. In Thorlakki, by contrast, the loudspeaker is situated in a residential area. In all instances, community support and panchayat approval was sought before the initiative began. While to receive radio broadcasts over a public loudspeaker system is less than ideal, the research suggests that loudspeakers have been more naturally integrated into the local communicative ecologies of the area than the cable radio-through-TV model followed in Budikote.

Local Information Networks: Social and Technological considerations

In December 2004 loudspeakers were set up in two small villages closer to Budikote, Kodgurki and AB Colony, via a newly laid audio cable. These villages are able to listen to Namma Dhwani's broadcast on loudspeakers every evening, and villagers' support for it has been enthusiastic.

2.37 However, there has been a decline in the number of audiotapes that these satellite villages source from Namma Dhwani to play over the loudspeakers. The reasons cited by RC managers are that they cannot afford the monthly expenditure that program orders entail and that the programs Namma Dhwani supplies are less relevant to their communities. At this stage, there does not seem to be any other way of raising the revenue for the purchase of tapes other than from the limited RC budgets. This factor is hampering Namma Dhwani's further expansion, since the centre has been unable to recoup the installation and maintenance costs involved in setting up the satellites.

2.38 Finally, while Namma Dhwani's cablecasts are more dynamic in nature, experimenting with more varied radio formats and incorporating both the spoken word and music, the loudspeaker broadcasts in the Resource Centre villages tend to take a more predictable form. Participation is also restricted to around 2–3 volunteers in each of the RC villages, which limits the potential of local media in these villages. Nonetheless, for Namma Dhwani, the potential of this kind of expansion is encouraging. Primarily it relies on traditional media like loudspeakers that are low cost in terms of investment and maintenance. The loudspeakers are not constrained by the power cuts that regularly affect Namma Dhwani's cablecasts, owing to the Uninterrupted Power Supply units – back-up batteries that already exist in each of the RCs.

Namma Dhwani's social information networks (SINs)

2.39 Namma Dhwani plays a key community role as a social information network in its own right and is reliant upon the assistance of a variety of different people in order to sustain itself. To maintain its social validity it relies heavily on the dedication, enthusiasm and professionalism of its staff, management committee, volunteers and the local community. Namma Dhwani is operated by a small core of paid staff or Community Resource Persons (CRPs) who are responsible for managing the volunteers, technical maintenance and production, supervision of the computer training programs, decisions regarding programming, community liaison, ongoing research and so forth. Clear dividends have accrued to local staff in terms of their increased power and prestige within the community, both through their association

with the centre and also their 'visibility' on the radio itself. In their role as radio announcers, both the CRPs and the volunteers enjoy a privileged ability to question both traditional power structures and government corruption. Moreover, to some extent, they are bathed in the aura of glamour and prestige associated with those they interview — whether celebrities or people in positions of authority.

2.40   At present, the local paid community resource people undergo a monthly evaluation. Supervised by VOICES and MYRADA, the evaluation looks at the Community Resource Person's job outcomes in terms of innovative programs, numbers of volunteers recruited and their ability to attract community sponsorships. The amount represented by their monthly honoraria depends directly on their outcomes. This system has given the local staff incentive to work more effectively. However, its disadvantage lies in the possibility that in the longer term it creates a dependency on the NGOs' continued involvement in the partnership.

2.41   The Management Committee was drawn from the ranks of the Self-Affinity Groups or SAGs that MYRADA had already established in the area. In Budikote, each SAG represents a neighbourhood network with members being drawn from a single street or those nearby. Neighbourhood networks are an integral part of Budikote's social fabric and have also been a significant element in the success of Namma Dhwani. For instance, as mentioned earlier, Namma Dhwani's management committee was largely drawn from the ranks of these SAGs. However, since June 2004 women from the management committee have not convened a meeting owing to pressures such as lack of time, constraints on their mobility, and pressures from some members (usually male) of their households. Balu, the Resource Centre Manager and Namma Dhwani co-ordinator, had this comment to make about it: "We assumed that because Namma Dhwani was an institution that was based on the community radio model, it would be run by and for the community. But we found that communities, especially women, cannot be expected to run a centre actively. on a voluntary basis. They can only, at best, be the monitoring agency." In the absence of the management committee, the day-to-day matters of the station have been collectively managed by the local staff and the VOICES and MYRADA representatives. The partners are currently considering the option of constituting a voluntary programming body to represent the community at the centre. As conceived, this voluntary committee would replace the management committee and enable envisaged plans for expansion to go ahead. Beyond the business of a SAG the wider neighbourhood network conveys information of its own. This may include information relevant to the families who live there, such as dates of school exams or results, news of local elections or if a mobile health clinic is coming to town. Information on scholarships or employment,

stories and anecdotes regarding animal husbandry or new agricultural practices, and government subsidy schemes may also be circulated through these networks.

2.42   For local initiatives to be successful local information networks need to be aware of the social context in which they are placed. This enables them to be sensitive not only to local beliefs and traditions, but also to local power structures. A community multimedia centre such as Namma Dhwani needs to know how members of its community relate to each other socially and spatially. Namma Dhwani learned this lesson when participants realised that making the centre a woman-only zone on Saturday nights had failed to consider community constraints on women's mobility. The LIN researchers then went out to investigate the relationship between the sanghas (as the SAGs are referred to locally) and their neighbourhood network. Focussing upon one sangha in particular, Navjyoti, we were able to verify that all the women in the SAG lived within the neighbourhood, a small area consisting of just five intersecting or conjoined streets. We then asked why the women lived where they did, and their answers revealed that most had only moved there subsequent to marriage (most SAG members are married women). In other words, the basis of association between these women was not so much residence as the fact that their husbands belonged to the same families. Out of seventeen women represented in the SAG, fourteen belonged to one of three extended families (patrilines) based around related males. Seven households belonged to the first family and three to each of the two. The four remaining families belonged to lower caste groups and other than through the SAG, had little interaction with the three main families.

2.43   The exercise of 'mapping' the Navjyoti sangha was useful for several reasons. It allowed us to see how neighbourhood networks are themselves emanations of more pervasive family networks based upon kinship. Second, it exposed dominant family groupings that might impact upon power relations within an information network, whether to facilitate or hinder the flow of information. And finally, it revealed the incorporation of low status minority groups within the network, albeit that the relationship between individual members, across caste, is unlikely to be horizontal, and this in turn could conceivably affect the flow of information within this network. This social mapping exercise provided us with useful information about how different members in the community related to one another. Social relationships also have a clear impact on the way that information is shared and withheld in this community. Having a grasp of the local social 'map' is therefore imperative when trying to involve local people in a community initiative such as this.

2.44   In addition to the paid staff and management committee Namma Dhwani has a number of volunteers. One of Namma Dhwani's most crucial learning experiences

has been to understand just how valuable volunteers are to a community initiative such as theirs. Recognizing the potential hazards of unpredictable volunteerism, the partner representatives from both VOICES and MYRADA put in place management systems focussed on training, motivation and confidence-building designed to attract a sustainable cadre of volunteers. From the project's inception, several volunteers were selected for training. Training modules covering such topics as equipment use, interviewing and presentation skills were made available to trainers, while the trainees received follow-up exercises. After the first round of training, the three most active volunteers were given a small remuneration for efforts in running the station, in regard to programming and towards the construction of the audio production centre. From 2001–2003, these 'paid' volunteers, although the gratuity paid was never commensurate with a salary, became the only representatives and program producers within their community. The concept of active, unpaid volunteering only arose when the cable phase was initiated, prompted by the need for more people who could help with the increased programming demands. However by their very nature volunteers are under no compulsion to participate in the Centre, yet the benefits are clearly two-way.

2.45   One of the first reasons volunteers give when explaining why they like being a part of Namma Dhwani is that it helps to build their self-confidence. Vanaja, a second-year bachelors degree student, maintains that even though she is from a neighbouring village that cannot receive Namma Dhwani's cablecasts, the Centre nonetheless provides an outlet for her creativity. Being a part of Namma Dhwani gives her the space and freedom to innovate. 'People still point the finger at me and question my motives for wanting to come here, because they don't like boys and girls mingling. But if I stop coming, I am the one who loses, not them'.

Namma Dhwani observations

2.46   At the time of writing this case study, the management committee of Namma Dhwani had not conducted a meeting for eight months. The local staff and the VOICES and MYRADA representatives have collectively managed the day-to-day matters of the station. The partners are currently considering the option of constituting a voluntary programming body to represent the community at the centre. As conceived, this voluntary committee would replace the management committee and enable envisaged plans for expansion to go ahead.

2.47   Since Namma Dhwani is also the first experiment in India that requires listeners to listen to the station via their television sets it is useful to ask how the community has

adapted to this new media experience. The EAR researcher's extensive observations show that despite being provided with cheap modified radio sets equipped with cable input points, most people did not use them to listen to Namma Dhwani. Instead, the radios were used as a convenient portable transistor that people could take with them to their fields. On the other hand, when listening to Namma Dhwani on their television sets, people usually set the volume high enough to allow them to listen from the kitchen or some other room. The culture of watching television in Budikote is very strong and this provides strong competition to the Namma Dhwani programs. A local cable operator believes that 'the biggest drawback is that Namma Dhwani is cablecast at the same time that all the TV serials are broadcast and because people are so addicted to them, they miss listening to Namma Dhwani. And we cannot cablecast at any other time, because this is the only time that power is available consistently in Budikote.'

2.48   Another big problem that this same cable operator faces is the delay in or complete lack of payment from community members. The prolonged drought adversely affected his business and these days he has had to resort to cutting connections to households that are not paying their monthly dues. Apart from the cable business he also runs a VCD/sound system rental outlet that returns a more reliable profit than the cable business. Namma Dhwani pays him Rs.1000 per month towards the cost of operating and maintaining the cable network on its behalf.

2.49   Present media legislation has an extremely narrow focus in that it only allows educational institutions to apply for 'community radio' licenses, and of these, only those institutions that are 'residential' may apply. The process for obtaining a licence under the present legislation involves sending an application pledging to follow the AIR programming code to the Ministry of Human Resource Development. To date, a total of 60 applications have been received by the national government, of which only 38 applications have been deemed eligible. These have been sent on to the other ministries concerned for clearance. Letters of intent have been signed in 26 cases and licence agreements signed in just 10 cases.

2.50   The Namma Dhwani case study offers us an insight into both cable radio and loudspeaker as media. While the Budikote community clearly prefers to listen to Namma Dhwani on their television sets, rather than via the modified radios, there is a risk of interference by other family members wanting to watch alternative television channels. Also, different habits of use in regard to television mean that listeners are more likely to switch off altogether when they lose interest. This is not the case with radio, however, which people tend to leave on as they go about their tasks.

2.51   Namma Dhwani constitutes an example of a Local Information Network in that it comprises an integrated system of information flows. It encompasses a range of smaller information networks and has the potential to expand and transform into a larger information network. Whether it does or not will depend on the needs, capacity and the collective will of the local community, in other words on issues relating to social sustainability.

2.52   The research findings show that Namma Dhwani has redressed the lack of adequate communication facilities by complementing existing social information networks and intervening in the local communicative ecology. One of Namma Dhwani's key strengths is its association with the SAGs in the area. This experience shows how an initiative like Namma Dhwani media Centre Organisation, with well planned research and relevant programming, can strengthen a community's base and expand further to involve other groups not currently represented at the Centre. Campaigns involving local governance issues as well as celebrations and other social events organised by Namma Dhwani demonstrate the possibilities for community fundraising and financial sustainability.

2.53   In its short history, Namma Dhwani has demonstrated considerable responsiveness to community needs and dynamics. It has been flexible and innovative in its responses, indicating a level of sensitivity to its local social environment that is often lacking in more institutionalised media structures. Namma Dhwani has tried to mould itself around the everyday workings of the Budikote community and to adapt and grow alongside it. As a consequence, the project has in some respects deviated quite radically from its original form. Yet this has fostered the emergence of some highly creative innovations underlining Namma Dhwani's immense potential to enrich the life of the community by enhancing the free flow of vital local information within it.

Nabanna Information
Network for Women

3. Nabanna Information Network for Women

Background: Geographic, economic and cultural context

3.1   The local information network of Nabanna is weighted towards the social (SIN) end of the information spectrum. Working in an area that lacks a robust technical infrastructure, Nabanna has emphasised the building of a network of women who have been trained in the use of computers and work as 'information agents', connecting with groups of women in their local neighbourhoods to exchange and share information obtained or distributed through the initiative. Each of the information agents is required to form an information group, or IG. Each IG consists of at least 10 women from the agent's neighbourhood, and each IA is encouraged to ensure strong representation from among the poorest or most marginalized members of the community. As such, information is exchanged in social settings by human actors actively engaged in social interactions, thus giving the network a predominantly social character. Thus, for each woman with direct access to a Nabanna computer centre and training in how to use the computer (information agents) there are 10 other women with whom they discuss their activities without such aids.

3.2   The Nabanna LIN began in February 2003 with the establishment of a computer centre in the Baduria Municipality building in 24 North Parganas District, 65 kilometres south of Kolkata, West Bengal. Two additional Centres were later established, the first in Arbelia which is part of Baduria municipality, the second in Jagannathpur panchayat. Although for a period Nabanna operated three ICT centres, at the time of this case study there were two, the first having closed in December 2004 due to differences with the municipal authority. Both the municipality and the panchayat fall within the larger administrative unit of Baduria Block.

3.3   Approximately 72% of West Bengal's population live in rural areas and according to the Planning Commission; the proportion of the population below the poverty line in 1999–2000 was 31.85%. In rural areas Scheduled Castes (SC) make up 28.6% of the population, while Scheduled Tribes (ST) make up 5.8%. Muslims account for 28.6% of the total population of the state, but are concentrated in rural areas and make up some 33.3% of the rural population. Together, SC, ST and Muslims — which are the three poorest groups in rural Bengal — account for more than half of the rural population. In 1999–2000 27% of the population was defined as below the poverty line. While this was only marginally higher than the national average of 26%, the figure masks the fact that a greater level of poverty exists in the rural areas of the state.

The concentration of poverty outside the urban areas is higher in West Bengal than elsewhere in India: 84% of the poor of West Bengal live in rural areas, compared with 74% in India as a whole. With this broader context in mind, we now turn to a closer examination of the socio-economic contexts in which the three centres included in this study are located, namely Baduria Municipality, Arbelia and Jagannathpur.

3.4   Although classified as a municipality and therefore an urban administration, Baduria has all of the characteristics of a rural location. Baduria municipality is heavily populated, containing a total of 47,388 people. The population comprises a mix of different castes and religions but is dominated by Hindus (77.16%) and Muslims (22.50%). Baduria's economy is a mix of household industries, with agriculture (jute, rice and cotton production) predominant in the panchayat areas. Poverty is conspicuous in all the wards of Baduria. Only a small fraction of the population can afford to own televisions, cars, motorcycles, and other consumer goods. Most of the inhabitants are dependent on daily wage labour in the fields or on construction sites, or in wards such as Taragunia, at brick kilns. Bidi-binding (hand-rolling tobacco) is a common means of income-generation. Wherever it occurs it involves almost every member of the family. Another family-oriented occupation is weaving. Apart from these family-based occupations, women are also engaged in independent forms of work, such as sewing, knitting and so on. Unfortunately, however, most of them do not have direct access to the markets and must resort to an agency or middleman to sell their products.

3.5   There are forty primary schools, four high schools and five higher secondary schools in Baduria block. In addition there are several Child Education Centres and Child Labourers' Schools that follow a non-formal system of education with flexible timings and syllabus. There are six public libraries, six free reading rooms, and 126 mass literacy centres. Literacy figures for the district state show an 84% literacy rate for men and a 72% rate for women. There is only one public hospital, subsidised by the World Health Organisation, four health centres, 33 daytime clinics, and one private and one public family welfare centre. Situated in Magurkali, Ward No.17, in Rudrapur-Baduria, the hospital has only 60 hospital beds and ten doctors to serve the whole municipality.

3.6   Aside from the original Nabanna centre, located at the Baduria Municipality building, there are two further centres, one located in Arbelia in the Arbelia J.V. High School, (Boyikara Ward, Baduria Municipality) and the other in the panchayat of Jagannathpur, just outside it. While these locations face similar difficulties in terms of a lack of adequate health and educational facilities, they are culturally distinct. Arbelia is predominantly Hindu in character, while Jagannathpur is distinctively Muslim. Arbelia has a population of 3,797, consisting of 1982 males and 1815 females, as recorded in

the 2001 Census. It is 20 minutes away from the municipal centre by cycle-rickshaw. To travel by bus from Arbelia to Barasat, the district headquarters, takes about 75 minutes, and about 45 minutes to get to Basirhat, the sub-district headquarters.

3.7   Arbelia's sole source of development and growth funds, with the decline of traditional landlord patronage and philanthropy, is the West Bengal government, administered via Baduria Municipality. Although there are no NGOs in Arbelia, community-based organizations (CBOs) abound. Most are boys' clubs of some sort, for example, at one local youth club, boys get together to play carom and read newspapers. However, Self Help Groups (SHGs) also have a strong presence in the area, as we shall see. The poor of Arbelia work as daily wage labourers in activities such as mat-making or van drivers. Many neighbourhoods (Bengali: paras) have caste names. Traditionally people of particular castes lived together although this tendency has weakened over time. Arbelia has two high schools and a total of six primary schools, spread across its three wards. The nearest health facility is Dhynakuria Hospital, situated about 3.5 km from Arbelia. Established in 1940, this private hospital has only 15 beds and many patients sleep on the floor. Two of the four serving doctors — all of whom are male — are gynaecologists and two are optometrists.

3.8   The Nabanna centre located in Jagannathpur is housed in a panchayat office building in Khamar Para village. The total population of Khamar Para village is 1393, consisting of 722 males and 671 females. Sixteen of the males and 14 of the females are SC. Jagannathpur's Muslim orientation is reflected in the fact that Khamar Para has one mosque but lacks a temple. The village has only one school, a primary school, which has a total of 147 students and three teachers, one female and two male. Jagannathpur has two auxiliary health centres, one of which is situated in the panchayat building itself. Both are limited facilities offering a reduced range of services. While no certified medical practitioners have set up private practice in the village, there is no shortage of alternative doctors' surgeries. Unqualified practitioners run many of these, some holding false certificates of authenticity called an RMP (Registered Medical Practitioner) obtained through the black market.

The intervention: Nabanna Information Network for Women project description and development

3.9   Nabanna is a Bengali word literally meaning 'first rice'. Rice is more than just a staple in Bengal — it symbolises both agriculture and food. 'Nabanna' is also the name of the rice harvest festival in November. Nabanna's original vision was to

empower poor women from the Baduria community at large to organise and use–to 'harvest'–information. To do this they wanted to work with the idea of establishing a network of 60 women who they would train in computing and who would be closely involved in the activities of the ICT centres and Nabanna itself. Each of these women would form a group of 10 women in their neighbourhood with whom they would share and collect (harvest) information and knowledge. The central idea was to make information available to community members using new technologies such as computers and the Internet. Connectivity proved highly problematic. Nabanna adapted by starting to produce a print newsletter, and by using mobile technologies such as laptop and palmtop computers to explore alternate ways of gathering information and knowledge.

3.10   The Nabanna initiative is operated by a non-governmental organisation (NGO) called Change Initiatives that fostered the partnerships with the Arbelia J V High School and the gram panchayat of Jagannathpur. It employs a small number of staff, while the Team Leader, Project Director and Lead Action Researcher are all members of Change Initiatives. In addition they have local volunteers and staff to help with the running of Nabanna and the ICT centres.

3.11   Several phases of activity have been undertaken in establishing Nabanna's LIN: (i) computer training of the information agents and information group (IG) formation; (ii) the establishment of the initial centre; (iii) establishment of subsequent centres; and (iv) an ongoing active research program designed to connect the information needs of the communities in which the centres are located to users and other audiences. Each of these discrete phases is addressed in detail below.

3.12   Phase 1: Computer training of the information agents and IG formation. In February, 2003, the Change Initiatives team visited all the wards of Baduria Municipality in order to meet local women, familiarise itself with local culture and investigate community issues. The women were invited to participate in the computer training offered by Nabanna. After a rigorous selection process including group discussions with applicants, interviews and means testing of all applicants, the first batch of 29 young women was selected for computer training as the information agents. Since Nabanna's objective was also to spread information using human networks it was made clear to these women that in return for free computer education they would be required to form information groups (IGs). These IGs would consist of poor women to whom the information agents would provide information and from whom they would elicit feedback. Computer training was, to some extent, conceived as the popular part of the project that would draw women in: poor women would

learn about computers, in return they would form information groups for collection and distribution of information and knowledge. Over a two-year period, the training did indeed form a base of ICT-literate and skilled women, rendering them unusual among most other rural communities in the region.

3.13   The goal of the computer training was to establish a number of separate IGs, which together would form an impressive local information network. 60 women were selected to become information agents, making a network of 660 women in all. Each information group was made up of ten women from a single neighbourhood. Members were recruited by the information agent or by other IG members. The information agents themselves were either students or housewives/homemakers. They thus fell into two distinct age groups: a younger group, consisting of the students, with an average age of 23, and the housewife group, with an average age of 35. The average income among all IG families was a meagre Rs 1500 (US$30) per month.

3.14   Phase 2: the establishment of the initial centre. With the co-operation of local governing authorities, the first centre was established in the Baduria Municipality building in March 2003. Immediately following this, computer training began, along with the formation of the information groups. In contrast to the other LIN study sites in Budikote and Malappuram, computer training in Nabanna has been relatively informal and does not conform to any fixed schedule or regular timeframe. All the current trainers were originally information agents who were themselves trained by the Change Initiatives team. Information agents are required to come to the centre twice a week, where they spend up to two hours at a time on the computers. Generally they learn to type, as well as mastering a number of MS Office applications. Local trainers provide help and support on a random request basis rather than as part of a systematic program of structured lessons. There is a significant demand for computer education locally since the closest alternative source of computer training is at Basirhat, at a cost of Rs 1000. Young women in particular have taken the opportunity to come and get training in computers, some travelling up to 40kms to do so, which takes around an hour. Altogether Nabanna has trained over one hundred young women in basic computing.

3.15   Phase 3: establishment of subsequent centres. In December 2003, a second centre was established at Arbelia in the high school building, followed by a third centre, in Jagannathpur, in August 2004. The project suffered a setback in December 2004 when, due to differences with the Baduria Municipality authority, the centre hub in Baduria was shut down. Thus at present Nabanna is operating out of the two Centres only. Recently Nabanna has begun to collaborate with an NGO called Pather Dabi.

This is a dynamic network of SHGs located in Shayesti Nagar, Teghoria ward, on the eastern side of the Icchamoti River. The collaboration involves a variety of reciprocal activities, with Nabanna supplying Pather Dabi with printed information in the form of handouts and newsletters. Pather Dabi in return has disseminated these materials among a number of local SHGs and plans to collect feedback from them. These SHGs constitute a pre-existing network of economically marginalised women to whom Nabanna can provide information through Pather Dabi. All of the SHGs are involved in micro-credit operations of some kind, ranging from knitting cooperatives to mushroom farming, fruit-picking and selling, rice processing (winnowing, de-husking, cleaning and sun-drying ready for milling), embroidery and hand-painting of sarongs and clothing. The advantage of this collaboration is that in utilising pre-existing networks, Nabanna does not need to build a network itself. It therefore represents an additional and potentially viable extension to Nabanna's local information network for the circulation of information and knowledge.

3.16 Phase 4: ongoing active research program designed to connect the information needs of the communities in which the centres are located to users and other audiences. Throughout the development of Nabanna, one of its great strengths has been the way it has prioritised assessing the information needs of participants through a willingness to experiment with different research techniques. Apart from standard methods like field notes, surveys and interviews, the project also conducted mind-mapping and diary-writing exercises with participants. The intention of the diary-writing experiment was twofold. First, the project team wanted the information agents to improve their personal communication to help them relate better to their information groups. Second, it provided Nabanna with a body of data that could be analysed to identify issues of major community concern.

3.17 A range of themes emerges from the diaries, including a preoccupation with social conflict; crime; morality and the question of evil; and, on a lighter note, social gatherings and festive occasions. Some diaries also discuss health, education, transport, accidents, sport and so on. A further topic of interest found in the diaries was Nabanna itself: many entries discussed computers, the initiative and its staff. Apart from providing insights into community life, the diary-writing experience was also illuminating for many of the information agents. Some time after the diary exercise had concluded, one participant said: 'we don't need to write diaries anymore for the project, but I've still continued the habit. It is a source of consolation to me to sit at the end of every day and share my sorrows and happiness with the diary'. The diary reading sessions were also the foundation of many friendships that blossomed in the centre.

Baduria communicative ecology

3.18 Within the poor communities encompassed by Nabanna the degree of internal integration is relatively low, with many residents being migrants with shallow histories of affiliation with the area. Despite this, some very positive, cohesive social interactions do occur within the groups and this is fortunate, given that technological means of increasing and strengthening connections between communities are limited. The following description provides a brief outline of the opportunities and ways in which people give and receive information and communicate with one another.

3.19 The main mode of transportation in Arbelia, besides walking, is rickshaw vans. There is one bus that connects Baduria to North Kolkata, passing through Arbelia. There are two buses connecting Jagannathpur to the sub-division headquarters in Basirhat and continuing on to Bongong. There is also an auto-route from Baduria bus stand to Kholapota, which connects the village with the national highway. In most parts of India autos are usually run like taxis, however, in Baduria there are fixed routes and the autos ply their trade in a way similar to buses. Vans, which are pushbike powered vehicles consisting of a bicycle with a flat board at the back for carrying passengers or goods, are used within and between villages. However, drivers will often refuse to carry people into villages located well away from main roads on the grounds that they are unlikely to get a passenger on the way back. For many of the poorer residents, the charge is prohibitive and they prefer to walk. Finally, ferry services carry people and goods from one side of the Icchamoti River to the other.

3.20 Two public phone booths stand beside the panchayat building in Jagannathpur. The booth operators are also authorised agents of the BSNL (Government operated) and Reliance mobile phone services. Arbelia has five public phone booths. By contrast with Namma Dhwani and Akshaya, television ownership in Baduria is low. A small survey with 60 households in Jagannathpur showed that only one had a satellite TV connection. The 17 others who have television at home watch either the state-based channel, broadcast in Bengali, or Bangladesh TV. Local people regard Bangladesh television as more interesting and relevant to their daily concerns. Many of the women who are involved in Nabanna say that they watch TV at a neighbour's house, but very few say that they have dedicated time slots for viewing and they can only watch it when time permits. Most women seem to prefer Bengali cinema and sitcoms to other programs. Radio is prevalent across the region, and no less so in Arbelia and Jagannathpur. Local people often tune in both while they work and during leisure hours. FM stations are more popular since local people prefer to listen to songs and music rather than news. Twenty-two of

the sixty households surveyed in Jagannathpur reported that they listened to radio regularly, usually for several hours a day.

3.21   Only six households in the Jagannathpur survey subscribed to newspapers, while ten others claimed that they read the newspapers opportunistically in neighbours' houses or public places. Other than main headlines attached to significant events like the Iraq war or the Boxing Day (2004) tsunami, they tend to read only the briefs running down the left-hand margins and such crime-related news as interests them. They also scan general features such as weather, sports and crosswords. Three of the sixty households said they accessed newspapers indirectly, by getting their children to read to them out loud. The most popular newspapers were the state-wide publications, Bartaman and Pratidin, both in Bangla. Another means of public communication commonly used in the area are the mobile loudspeakers carried on cycle rickshaws. Messages range from announcements about local drama productions and community festivals to immunization programs. Fairs, film shows and other forms of entertainment further augment opportunities for communication throughout the wider community.

Baduria social information networks (SINs)

3.22   One of the characteristics of communities in Baduria is that they are dispersed and relatively discrete. Although distances between hamlets, villages and towns are not great, in the context of a non-motorised population even small distances represent a substantial barrier to inter-group mobility and communication. Accordingly, villages and neighbourhoods tend to be arranged in discrete clusters where social interaction is intense and highly localised, and not mediated to any significant extent by electronic information technologies. Exacerbating the isolation of many of Baduria's poorest communities is the way hamlets or residential clusters often consist of unrelated people, thrown together by the circumstances of migration. In the case of migration between Bangladesh and India, movement back and forth between the two countries tends to continue long after migration has taken place. Hence social and family links are kept alive at a distance through physical visits. In addition, television viewing and radio broadcasts enable displaced locals to keep up to date with what is happening in their communities of origin.

3.23   The first obstacle to confront the Nabanna initiative was the lack of Internet connectivity throughout the area. Despite its success in providing basic computer training to local women, Nabanna's ability to develop a robust technology-mediated network was hampered by the paucity of e-connectivity in the area. Even had the outlying communities in each of the municipal wards covered by Nabanna been provided with computers, they would still have been unable to make electronic contact with either Nabanna or the world at large. Given this limiting factor, Nabanna's media-based activities have centred on the production and distribution of a bi-monthly print newsletter, and the establishment of a network of women.

3.24   Nabanna deals exclusively with communities classified as 'BPL' — Below the Poverty Line — identified with the help of the municipality. The major criterion for selection was family income: only those households earning a monthly income of between Rs. 1200–3000 were eligible. Hence all the constituent communities are poor, and many are also landless and insecure. Most live on public land owned by either the panchayat or the municipality with no option to farm or exploit it as a source of income. They are therefore compelled to seek wage-labour or engage in self-help income-generating schemes.

3.25   While the Self Help Groups (SHGs) that exist in the area, like those in Budikote, consist of only women, in other respects they are quite different from those in Budikote, since they often consist of relative newcomers thrown together by the circumstances of

migration. Unlike those involved in other LIN networks, the SHGs of Baduria tend to consist of unrelated women who have married or who have migrated into the community from origin communities located between 15 and 500 kilometres away. Nabanna women are therefore typically isolated and lack a support base of natal relatives. Yet, despite this lack of a long-standing shared history, the neighbourhoods from which the Information Groups (IGs) are drawn are surprisingly cohesive. It would appear that even in these marginal and contingent circumstances — people can at any time be evicted, they have no security of tenure, and their livelihoods are equally arbitrary and even capricious–the women of these neighbourhoods actively choose to work together. They choose to cooperate and provide mutual support to one another in order that the whole group may continue to be viable and to sustain itself into the future. It is in this context, therefore, that any discussion of social information networks, whether formal or informal, must be understood.

3.26   In Baduria the SHGs have taken advantage of the national funding available to them to establish income-generating initiatives such as bidi-rolling, knitting (using knitting machines purchased by the collective), mushroom-farming, rice-processing, weaving, embroidery and other forms of sewing. Most women see membership of an SHG as a way of supplementing their husbands' income. Local men are often under-employed; dependent on seasonal work in the fishing industry or employed as casual labourers in road-building and other public works, in any of the dozens of local brickworks, and in jute-harvesting. But in addition to   the income-generating activities provided by the SHGs, women enjoy the access it gives them to local information. Women talk and work at the same time and as such; the SHGs are a major conduit of information.

3.27   Nabanna has found that Jagannathpur's SHG network seems to be more robust than Arbelia's. Despite the fact that SHGs were introduced into the municipality some years ago, Arbelia's SHG network is not extensive. One local person explained this as being due to the community's previous negative experience of a micro-credit scheme. A few years ago a private mutual fund apparently swindled money out of poor people in the area. Due to factors such as government inaction and the community's lack of resources with which to track down the perpetrators, the money was never recovered, nor was the company ever brought to justice. Moreover, the government subsequently made little or no effort to reassure villagers that state sponsored credit schemes were more reliable than privately-owned ones.

3.28   To investigate the way information flows within the kind of dislocated and opportunistic neighbourhood networks we have described here, the local research team conducted research among 106 women. The women involved belonged to

one of nine groups from several villages across Arbelia and Taragunia wards. The composition of the groups was drawn from a variety of sources, including neighbourhood clusters, kin networks and SHGs. Their membership therefore overlapped with that of the IGs. The sample was diverse in terms of location, religion, caste and profession. Many of the women were migrants from Bangladesh who had occupied government land decades ago.

3.29   A pattern emerged in terms of the way information was exchanged within the groups. One group used the Bengali term 'pancha', which means chatting or gossiping, to describe the flow of information. According to this group the most efficient means for exchanging information is to gather around a specific physical site, often the local ponds from which women traditionally drew water and at which they still wash their clothes. Other women pointed out how the new tube wells – a recent government initiative designed to ensure clean water– have displaced the ponds as the key source-point for information. However, this only applies where the tube wells have been placed in a neutral location, for instance, on public land, beyond or within a neighbourhood. In cases where the tube-wells have been installed in a private household compound, the effect has been to reduce rather than to enhance the flow of information. Whether tube wells or ponds serve as the point where information is exchanged, women felt that in order to get a good flow of information, you need a critical mass of at least five women.

3.30   It is clear that at present, Baduria's social information networks, whether formal or informal, are still the predominant means of gaining important community information. To try to ascertain the degree to which local people depend on social networks as their main medium of information and communication, a mind-mapping exercise was carried out among thirty-five women drawn from three Self Help Groups in Jagannathpur. About 95% of the women were from Muslim communities. In an informal discussion before the mapping exercise, they revealed that their lives had changed considerably since joining the SHG. Among the changes they mentioned greater mobility, improved access to money and sources of knowledge, and a newfound sense of unity.

3.31   The women identified six major sources of information — radio, newspapers, television, SHG meetings, the panchayat, and other group members (who in most cases were also neighbours). In addition, all the women were highly dependent on one core woman in particular. H is a member of both the community development scheme and the panchayat. She was also instrumental to their group formation efforts and they seemed to look up to her as a leader and a woman who represented

their collective information needs. Despite or perhaps because of the diversity of information sources to which the women had access, they were ill-informed about elementary aspects of their community, such as the fact that the anganwadi (health workers and children's day care centres) are run by the government of India under its Integrated Child Development Scheme (ICDS). Instead they were under the misapprehension that both services came under the auspices of the panchayat.

3.32   In comparing the two kinds of social information networks, informal and formal, most groups were of the opinion that the information provided by the latter, such as that sourced from Nabanna or the panchayat was more reliable. They also felt that men were advantaged by their exposure to a wide range of information through their work outside the community. Moreover, unlike women, men had access to public spaces such as tea shops, widely acknowledge as good sources of local news. Women, by contrast, can only access the information circulated in such places indirectly, via the men.

3.33   Thus at the community level, the ponds, the tube-wells and the tea shops, among other local venues, function as the social hubs for a variety of informal social information networks (SINs). The speed and efficiency of such informal SINs is impressive. For instance, one local researcher on the Nabanna team claims that no sooner does she arrive in a particular village than people in the next few villages already know of her visit. Information passes rapidly from person to person, group to group. The great advantage of a socially mediated information network is that it is part of everyday social life and information passes relatively easily within it. The drawback is that the information transmitted via these informal networks is prone to distortion. One group summed this up by saying: 'The information we get through informal channels is often confusing and incomplete, whereas the information we receive through formal channels like Nabanna is straightforward and easy to understand.'

3.34   Much of the information exchanged through informal social networks is highly domestic in nature, reflecting everyday preoccupations. When asked to describe the kind of conversations that took place during community knitting sessions or visits to neighbours women reported topics that revolved around day-to-day activities, special life-cycle events like birth, death and marriage, as well as sensational incidents such as family fights. Yet when information relates to domains of knowledge beyond this realm, it is often piecemeal and erratic. It is possible for women to know how to negotiate the arduous journey into Kolkata and find their way around this bustling metropolis to access homeopathic treatment, and yet for them not to know where their own panchayat office is located, nor who the panchayat president is. This

highlights a deficit of information and knowledge in regard to local government throughout the area. The Nabanna LIN network clearly has a significant opportunity here to promote good governance and community inclusion through engaging the communities of Baduria and helping to overcome these barriers to information.

3.35 The problem of achieving dynamic community engagement has already been acknowledged by local development workers in the area, such as the Block Development Officer for Baduria. He explained that the main issue confronting his administration was how to encourage people to take advantage of the various social programs currently available–particularly those relating to health and education. With its introduction of different media carrying local content designed around specific community needs, Nabanna has gone some way to addressing such information gaps. This naturally leads us to a focus on technology-mediated information and networks as they relate to the Nabanna initiative.

Nabanna's technology-mediated information networks (TINs)

3.36 Nabanna creates content for two main information and communication channels, a print newsletter and multimedia information modules. The bi-monthly newsletter caters to general community information needs while a series of information modules cater to specific community needs uncovered through research.

Newsletter

3.37 The first Nabanna newsletter, published in April 2003 was intended as a means of relationship building with the community. The first two issues of the newsletters were free. A nominal price of Rs. 1 was introduced with the third to help offset costs. Before introducing this measure, the idea of imposing a charge for the newsletter was canvassed with the IGs. Feedback from the information agents indicated that women were happy to pay this charge: they felt that members of the network would value the newsletter more if they had to pay for it, and that the price was affordable. The newsletters cover a variety of topics, including local culture, festivals, profiles of model community citizens, poetry, diary pieces by information agents, and regular columns on cookery and beauty. Some issues carry practical information detailing community development programs available through the local panchayat, describing local health facilities or announcing events. Information about Nabanna's current activities and future plans is also published.

3.38   Within the Nabanna network, dissemination and circulation of information involves a series of steps. In the first instance, the information agents themselves make regular visits to the centre, where they collect the newsletter. They then sell these to their information group (IG) members. The nature of interactions between the information agents and the IGs has differed between groups. For instance, those information agents who are less well educated have tended to keep their IG members abreast of developments through casual conversations that take place around local meeting places, such as near kitchens or around tube wells. By contrast, those who are engaged in tertiary or vocational studies prefer to call official meetings at which the newsletter or information modules can be discussed. On the whole, the more informal approach has been more successful in integrating Nabanna into the everyday lives of women. In some cases, where members of the IG are illiterate, the newsletter is read aloud and discussed. In all cases, feedback on the newsletter and issues raised in it, is collected and fed back to the Nabanna staff.

The information modules

3.39   In response to discrete community information needs Nabanna engaged in producing a series of mixed media information modules built around key community problems. A community needs assessment conducted by the Change Initiatives team earlier revealed that local women lacked adequate information on health issues. Initially, two key illnesses were identified as major concerns within the community and worthy of working up into information modules: anaemia and diarrhoea. A third module, on the dowry system, emerged as a topic of critical social concern from the diaries of information agents.

Figure 1: Rollout for the anaemia module, 2004

Time	Activity
February	Needs assessment of the area showed lack of information on health. Local team conducted a focussed health awareness survey and identified gaps in knowledge.
May	UNICEF contacted to research available health content. Received booklet on anaemia from UNICEF - became the prime source of information for the anaemia module.
May	Analysis of the content and selection of relevant information.
June	Introduction and training of local staff in how to make a professional Power Point presentation, using visuals and sections of the UNICEF text. Hyperlink in presentation allowed users to provide feedback as well as ask questions. Module stored on computers in centres with shortcut on desktop.

Time	Activity
June	Information agents came to the centre, took detailed notes from modules, disseminated this information within their IGs.
June	Local doctor invited to the centre to review module and answer queries that information agents had given as feedback.
July	Nabanna staff again took further questions to local doctors, get answers and input them into the computer.
August	Ongoing process of eliciting questions and providing information to participants.

Source: *Nabanna team/Change Initiative, April 2004.*

3.40   The anaemia module. The needs assessment indicated that many women in Baduria perceived themselves to be suffering from anaemia. The Nabanna staff decided to use the technologies and resources available to them to create an 'information module' on anaemia that was subsequently launched in June 2004. A total of 40 women accessed this information and between them, generated a total of 39 distinct questions. While in many cases, women asked questions that had already been asked, the 39 questions that ended up being incorporated into the module were entirely new.

3.41   The assessment of the impact of the anaemia module showed that most of the women said they had been unaware that iron pills were available free of cost in the health clinics. Many of them had recognised their own symptoms from the information and were making the recommended dietary changes. Some women contacted the local health worker and availed themselves of the free iron pills. Unfortunately, even though the iron pills were theoretically available free of charge to all, many women missed out on their pills due to a shortage of supply. In these cases the health workers were reserving their limited stocks for the use of pregnant women only.

3.42   The diarrhoea module. The second health issue identified by the needs assessment was diarrhoea. As in many rural areas across India, diarrhoea is widespread and takes many forms. Although Nabanna initially had trouble finding Internet-based information resources that were not focussed solely on children, eventually the team located sources that addressed the problem of diarrhoea more broadly, across all age groups. A range of websites, local doctors and state health journals were all consulted in the construction of the module. In its final form the module comprised segments on definitions of diarrhoea, its causes, symptoms and prevention. The final electronic file contained four hyperlinked files: (i) general information on diarrhoea; (ii) detailed information on diarrhoea; and (iii) diarrhoea for children. The fourth file

contained 'questions posed by participants', which were answered by the doctors in the Rudrapur Hospital on a weekly basis.

3.43 For reference purposes, a printout of the final module was given to the local health centre and panchayat. In addition, copies of the module were distributed to all the information agents to share with their IGs. Nabanna also introduced video content into its dissemination strategy, using a laptop computer to show the video to the IGs, introducing at this point a 'mobile content' component to their activities. The video was made in India, and had already been shown on Indian TV. Local visits by team members to show the video to the IGs started with an introduction to the topic and a reminder that the information module had been produced in response to community-expressed needs. Following this, team members went through the information contained in the module and responded to any questions that arose from the discussion. Finally, the video was shown.

3.44 Given the dearth of TV in these communities, the videos attracted the interest of children and adults from the wider community, as well as members of the IGs. Of the four sessions witnessed by one of the LIN researchers, all were very well attended and evoked palpable enthusiasm among the community. Although in part this enthusiasm can be attributed to the novelty of a video presentation per se, this does not detract from the way the event as a whole served to galvanise and excite the community and to catalyse conversations around the diarrhoea issue. Clearly, the goal of raising awareness of diarrhoea as an important local health concern was achieved.

3.45 The dowry module. In April 2005 Nabanna produced an information module on dowry using what had by then become a tried and tested method of information dissemination, a mobile approach involving site visits to local communities using a combination of laptop and handheld computers, oral presentations and group discussions. This has allowed Nabanna to reach the more remote areas of the district. Over six weeks, some 250 women and girls, 90 children and 35 men were involved in eleven group presentations and discussions of the module. In each case interactive sessions were conducted to encourage debate and present the information module.

3.46 Nabanna's key local researcher, Jhulan Ghose, had recognised the importance of addressing the issue of dowry as it had emerged as a topic in many of the diary entries of the information agents. The social and economic ramifications of dowry in the lives of poor families were evident. The dowry module consists of information on

laws related to marriage and the prohibition of dowry, developed with inputs from a lawyer. It also features a Bengali animation film produced by UNICEF. The short film is a story of a groom who visits several houses in a village demanding dowry. The entire community decides to rebel against this system and refuses to pay, thus forcing the groom to leave the village. Nabanna found this film to be effective as it demonstrated the power of collective action. This whole process enabled the different perceptions that community members had about dowry to be picked up by the research.

3.47   The following excerpt comes from the LIN researcher's fieldnotes: 'a local political icon said she considers her son and daughter to be equal and she has spent the same effort and money to bring them up. She is adamant that she will neither give nor take dowry at the time of her children's marriages. However even though the role of dowry in the cycle of poverty seems clear, there are only a few women who share J's determination not to give dowry ... Moreover some of the women were upset about the module and the accompanying discussions, as they see marriage without dowry as impossible. R is a young, unmarried volunteer information disseminator in the Nabanna network. She is pessimistic about the idea of marriage without dowry. A, another network member, considers dowry as a part of the system. In a light-hearted mood she says that her mother is keeping aside an extra Rs. 20000 (about US$465 – a huge sum in a rural context) as the setting of her teeth is not good. Although obviously she is making light of the situation, it is equally clear that the issue of dowry is never far from her thoughts. C's mother feels pressured to find her daughter a more permanent means of generating income as she has a very dark complexion. If C's mother cannot find a match for her, she must either provide a large dowry or ensure that C can earn a living on her own. One woman said that her husband left her as soon as her family paid the dowry amount; he then married again in order to get more dowry. She is now the mother of a three-year old son and is determined not to demand dowry when it is time for her son to marry.

3.48   While Nabanna does not expect that a single information module can change deeply entrenched social customs like dowry, staff members have no doubt that for many local women, the Nabanna module represents the first time this sort of information has been made freely available to women and discussed in a community space. For others, the module is an important first step in thinking seriously about the issue and strategising for a different future. In many meetings with women there has been a genuine interest in consulting with lawyers and police to explore the dowry issue further. However, at the same time, no one expects any support from the police whom the community believes are likely to demand money themselves for any help rendered.

3.49   The marriageable-age module. The latest module produced by Nabanna deals with the issue of marriageable age. While working with the dowry module several important social issues came up that needed to be addressed. Thus, the fourth module on 'marriageable age' was developed. The module follows a similar mix of media and the presentation also includes a UNICEF film called 'Too Young to Marry'. This films tells the story of a teenager and the societal pressures on her when she is nearing 'marriageable age'.

3.50   The formula that Nabanna has developed in terms of producing information modules and experimenting with the formats of presentation is encouraging and potentially provides a prototype for many other ICT and communication initiatives in the country. The short, crisp and effective manner in which the modules are presented seems to command the attention of the women in the audience, all of whom belong to the Nabanna network. It also represents a systematic approach to content production in that content can follow a consistent format. Through this experience of producing and disseminating the dowry module, including the vital information on marriageable age, the project has demonstrated that information production need not be a one-off event. It has also shown that through thorough research, the Nabanna initiative is capable of serving the constantly changing information needs of the community.

Nabanna observations

3.51   The fact that Nabanna staff are of similar age to the information agents seems to have enabled a positive rapport to develop between them. The number of information agents who turn up at each of the two surviving centres daily varies from about four to twelve. It is apparent from the styles of conversation among them and their body language that they feel comfortable at the centres and that they share a personal affinity with the computer trainers and the Change Initiatives team. Many of the young beneficiaries, in conversation with the LIN researcher, stated that the centres were more than just computer-training institutes to them. They were also places where they could meet new people, discuss openly their issues and opinions and make new friends. Their newfound knowledge, they say, has given them the confidence to be more positive about their future. C provides an interesting example, again taken from the LIN researcher's fieldnotes:

3.52   C is 22 yrs old. She was introduced to Nabanna in September 2003 when she first attempted to enrol in the computer training but was not selected. She tried again in February 2004 and from then her attachment to the centre has grown. She lives in a

thatched roof house without electricity. Her three older brothers are all blind. Fortunately, they have all found part-time work providing music tuitions or selling lottery tickets. In addition to performing household chores, C supplements the family income by tutoring the children of the neighbourhood and sewing clothes. Altogether the income raised by C and her brothers comes to roughly Rs.1600 (US $35) per month for a family of six. Finances often get so tight that she has to ask the children who come to her house for tutoring to bring their own lamps, as she cannot afford the extra oil.

3.53   Despite her difficult circumstances C is popular among the women of the Nabanna network for her unfailing good cheer and gregarious nature. 'Going to the ICT centre is fun. Chatting with friends, playing cards, watching VCDs. Because of this I get to know lots of women from other part of the municipality. I also really enjoyed the picnic we once had there.' C started recruiting her IG in October 2003. For her the process was relatively easy, since she was able to call upon either her neighbours or relations to make up the minimum of ten members required. She says: 'It was simple. I told these women that I have joined Nabanna Computer Centre from where I will collect information to disseminate among them. I told them they would all benefit from this and so they agreed to participate.'

3.54   Initially C found it hard to get the women to meet regularly. 'One day I was really angry with them and told them if they had problems attending they should let me know in advance. Otherwise I would not come again. I told them that the people who come to meetings are all women and none of them would kidnap each other. All that they have to do is just come and chat with each other for a while. After this, none of them said no, except two schoolgirls who cannot attend meetings on weekdays'.

3.55   C believes that the problem of attendance has little to do with women's disinterest or even perceived sexual risk, but rather with their husbands' jealousy: 'They do not like their wives to go out and mix with others. For instance, the moment a husband sees his wife dressing up and going out he asks her to do some work and if she refuses he will swear at her abusively. In the case of one information agent, it is her mother-in-law rather than her husband who will not allow her to go out.' Since most of the IG members are people that she meets everyday C has no difficulty circulating information to them. While no women from her group have ever visited the centre, C herself visits at least once a week at a cost of Rs. 16 for transport.

3.56   When asked whether information had brought about a change she said that it had definitely increased awareness among the women. Yet in her view it will be difficult to bring about more profound change. For instance, she says, 'Everyone knows that

giving and taking dowry is a bad practice and that it's even punishable by law. But does that stop anybody?' C's family paid about Rs 20000 (US $465 as dowry for her own sister's marriage over and above the wedding expenses). C believes that if she gets married it will cost even more because she is dark-skinned. However, this is something that she has now come to terms with. 'Earlier I used to hate the way I looked, but my mum taught me that it is the person that matters the most. Once I came to understand that, I found it easier to mix with all kinds of people.'

3.57 C's experience can be contrasted with that of R, who was less successful in establishing an IG. 17 year-old R was one of Nabanna's first information agents. During her orientation Nabanna staff had explained that her IG should consist exclusively of poor women. R's neighbours were mostly well off. She therefore contacted a poorer woman she knew, who then put her in touch with others in similar circumstances. All the women came from a single neighbourhood. At present R's IG has only seven women in it, which is below Nabanna's set minimum. It takes R 20 minutes to walk to their locality. She explained the concept of Nabanna to her IG as a means whereby they would be able to access relevant information (especially regarding health) and voice their problems in exchange for her computer training. She also told them that not all the information would be of direct benefit to them but that she was willing to transmit any feedback about issues that concerned them to the Centre.

3.58 R has already had about 6–8 meetings with the group. She reports that group members get irritated sometimes when she calls meetings together without having anything to discuss. Yet R explains that she is also scared to call a halt to the meetings because the IG would stop functioning altogether and then she would lose her computer training. Paradoxically, when she leaves it too long between visits they often say, 'You never come to visit us. What is the use of all this?' R's experience demonstrates the problems that can arise when an IG is not sufficiently grounded in a pre-existing social network, and is artificially grafted onto the community instead. R's IG was itself a neighbourhood, but she had no natural connection with it. This may explain why women came to regard their involvement with her – and with Nabanna – as something of a waste of time.

Nabanna: Discussion and analysis

3.59 Nabanna demonstrates the value of identifying existing social networks and working to integrate information interventions into these. Given the limited capacity for the use of information technologies in the area, Nabanna has placed the emphasis on

social information networks (SINs). It is therefore an example of a LIN that is heavily weighted towards the social end of the information network continuum. In many ways Nabanna has served to strengthen, extend and enrich social networks. The formation of deep and lasting friendships among the women associated with the centres has facilitated and enhanced the sharing of information. Nabanna has systematically acted upon research findings to both guide and plan its information interventions.

3.60   Nabanna's collaboration with panchayats and other centres of information such as schools and hospitals has provided the foundation for building a more community-oriented and sustainable management structure. Its positive relationship with Block Development Officers and the goodwill it has established with partner NGOs like Pather Dabi has also provided new avenues for potential expansion. It is encouraging to note that with this private-public collaboration, the community's relationship with these public offices has been re-invigorated. Clearly, tapping into these kinds of formal social networks has been fruitful for Nabanna.

3.61   The computer training offered by Nabanna has succeeded in creating a reservoir of computer-literate young women. This could be to the community's long-term advantage, even if the women move away from the community after marriage, as is likely. It is possible that these out marrying women could spearhead an expansion of the network across a wider geographical area as well as serving as conduits for knowledge and information exchange. Their role in this regard will be particularly enhanced when Internet connectivity comes to Baduria, as it surely will within the next five to ten years, if not before.

3.62   Through innovative research methods Nabanna has been able to investigate crucial health and social issues and provide local language information in a systematic and accessible manner. The use of video as a medium for information dissemination is an illustration of this. For both the dowry and the diarrhoea modules, Nabanna used their laptop to screen short films in local languages. It was noted that this medium was better able to sustain the groups' attention than alternatives. Also, the entertainment value of the medium tended to bring about more lively discussions with the community. The popularity of this endeavour and the way it fulfilled an expressed community need should not be underestimated.

3.63   The core objective of Nabanna is to encourage participants to 'harvest' local indigenous information and to complement this process by providing information using new technologies like computers and the Internet. Given the lack of Internet connectivity and multiple technical and financial constraints upon the widespread

use of computer technology, the project has responded by turning to alternative media and communication strategies, particularly those involving video and face-to-face interactions. This capacity to innovate when confronted with technical obstacles has helped to nourish and sustain this local information network.

3.64 However, for reasons that can be put down to the relative physical isolation and dispersed nature of the communities within the Nabanna network, Nabanna's strategy of offering computer education in return for IG formation seems to be faltering. Out of the 91 information agents trained, 58 have left of the project, making a dropout rate of 63%. Arbelia has the highest retention rate with only one of the original ten trainees leaving the project. Initiative staff said that of the 58 dropouts, 18 could not afford travel costs. Not surprisingly, 12 of these 18 were from Punda, the area furthest away from the Centres, lying on the other side of the river. Fifteen women dropped out due to marriage (this usually involves the girl's transfer to a distant community) and 15 others left owing to lack of interest and motivation. Eight women could not afford to spend time on the network activities and two others developed health problems. Hence distance, lack of time and the cost of transport have all conspired to discourage women from attending the Centres after the initial computer-training phase ended. The reasons may also be more subtle, in that women may have been unclear about what advantage might be gained in continuing an active association with the Centre, especially when it drains limited resources such as time and money for them to attend.

3.65 A problem with the present system of information sharing is that it is heavily dependent upon paid staff. This situation is at least partly due to the inadequacy of technology-mediated information systems. The lack of connectivity has effectively denied the information agents the opportunity to access the Internet and restricts free information flow into this network. Throughout Baduria the telephone lines do not have the capacity for data transfer in a dial-up connection and Nabanna's attempts at using mobile phones for connectivity have been unsuccessful. Thus, overall, Nabanna is heavily reliant on Change Initiatives and the core staff for its day-to-day running as well as in forming a project vision and sustainable plan for information generation and dissemination, research and financial sustainability.

3.66 Nabanna has not yet formulated a clear plan for social and financial sustainability, raising concerns about the growth and continued viability of the initiative. If Nabanna can overcome these obstacles, however, there is great potential for it to develop and flourish into a dynamic vibrant local information network that is closely integrated with the social communities in which it is embedded.

Akshaya Project

4. Akshaya Project

Background: Geographic, economic and cultural context

4.1   Kerala is the southernmost state of India with a distinctive landscape different from anywhere else in India. Keralite villages tend to be larger in terms of both area and population, and most have a regular water and electricity supply, as well as sealed roads. Kerala's Human Development Index (HDI) and demographic indicators are much more positive than for the rest of India. However, the social indices for Keralite society represent a different picture. For example, unemployment levels are the worst in India. In the 15–29 age group, a third is jobless. Furthermore, the number of crimes against women has risen fourfold recently and alcoholism is also a growing trend.

4.2   Some of these contradictions can be explained by Kerala's political history. In 1957 Kerala became the first state in India to elect a communist government. Thus, the state's policy since then has promoted high minimum wages and redistribution of wealth. Kerala also has high levels of unionisation, thus putting upward pressure on wages. Kerala's minimum wage is higher than elsewhere in India and as a result, a large number of industries have stayed away. The powerful trade unions in the state coupled with the government's insistence on promoting a primarily agricultural economy, means that a large amount of unskilled and semi-skilled labour has been under-utilized causing high levels of unemployment and associated social ills.

4.3   Another distinct feature of Kerala's social and economic situation has been migration, especially to the Middle East. After the oil price hikes of the 1970s Middle Eastern countries embarked on an investment program that increased the demand for labour in sector-specific industries. Two interrelated 'pull' factors influenced the demand for imported labour: the inability of Middle Eastern states to supply their own labour and the high wages. Kerala's geographical proximity coupled with its low level of industrialization constituted complementary 'push' factors that encouraged migration. [4]In 2003, 1.36 million Keralites were working abroad and of these 95 per cent lived in the Middle East. The immediate economic impact of this can be calculated in terms of the remittances sent back to Kerala from migrant labourers. The closest available estimate of annual remittances to Kerala during 1998–2000 is Rs. 13,815 crore.

4.4   However, recent changes to the immigration policies of the Gulf States have occurred, aimed at reducing the influx of foreign workers, offsetting the recession in the Gulf economies and labour market saturation by migrants in the unskilled

and semi-skilled categories. As a result, many 'foreign' workers have been replaced with 'national' workers. Furthermore, 'demographic balance policies' have been introduced that prohibit nationals of a single country to dominate the migrant work force in a given destination. This change in immigration policies in the Gulf places the Kerala economy in a precarious position and has therefore forced the Government to implement strategies that allow newer local industries to flourish. One such key area is Information Technology.

4.5   Concurrently, enthused by the prospects of e-governance, several state governments in India are developing community telecentre initiatives that require educating people in the use of computers, and using computing to make citizens' access to governance easier. In 2000, the state government of Kerala initiated an e-governance transaction enabling mechanism called FRIENDS, which offered integrated computerized payment counters for citizens at each of the district headquarters for over 1000 services. The Keralite government has a stated mission of equipping all its local governing bodies with computing facilities by providing first the initial training, as well as locally-relevant content and services to sustain them. The Akshaya project has been a continuation of this initiative and has been progressively 'rolled-out' to a number of districts.

4.6   One such district is Malappuram, which is located in northern Kerala. In conversations with Malayalis one often hears the term 'backward' being used to describe Malappuram. Two factors that may contribute to this perception are Malappuram's low education levels and its high population density compared with the rest of Kerala. Malappuram is the most populous district in the state and the only district in Kerala with a Muslim majority (60%). The 2003 state elections saw a landmark victory for the Community Party (Marxist) over the Muslim league, indicating a political change that will have important ramifications for the education, gender and labour conditions within the district. The district also records a high emigrant population, with one out of every two households containing either a migrant worker or an ex-migrant worker. The influx of remittances is apparent from the number of large houses, as well as booming real estate businesses and gold shops.

The intervention: Akshaya project description and development

4.7   In April 2002, in an effort to offset negative perceptions of the district as 'backward', Malappuram's panchayats approached the Minister for Information Technology with a proposal for a district-wide computer literacy campaign. The councils offered to help with the costs by contributing Rs. 6 crores. The government responded by not only

agreeing, but also by deciding to use Malappuram as the initial test case, with the end goal of replicating the project throughout the state. The idea was to complement the computer training with a state supported network of public computing points, so that people would have the opportunity to apply their newly acquired e-learning and literacy skills. Hence Akshaya was born. Based on earlier experiences within the state and elsewhere in the country Akshaya's project planners felt that functional ICT literacy was not enough to ensure e-governance. Planners perceived that in addition to functional e-literacy, state-wide IT projects also required cheaper accessibility options and that local content be made available to users if the centres were to achieve long-term sustainability. Finally, the Akshaya project team felt that markets based purely upon supply (content) and demand (usage) functioned sub-optimally and that therefore, the state needed to intervene to create critical markets.

4.8   The plan was to create a number of ICT access centres, a mass of users (through the literacy campaign) and a mass of locally relevant content. The Akshaya project involved setting up 630 e-Centres or multi-purpose community technology centres (MCTC) throughout the district and aimed to make one person from each family within the district functionally ICT-literate. Prioritising financial sustainability, the Akshaya project also decided to franchise all the e-Centres to private entrepreneurs, while keeping the network tightly knit through uniform branding, a centrally planned structure for optimal e-Centre locations, and a centralized planned curriculum identical across all e-Centres. Broadband connectivity would be provided to all locations, controlled through a Network Operating Centre. Because of Kerala's high emigrant population, the need for cheap communication was paramount. Accordingly, a tender was put out and Tulip IT Services Ltd was chosen as the wireless system to support the project. Tulip's solution consists of a high-bandwidth, wireless, backbone network that leads to a subsidiary access network for connecting the individual e-centres. Despite some apparent shortfalls in providing connectivity to every e-Centre, Akshaya's wireless network is now one of the world's largest wireless Internet Protocol-based (IP) networks.

4.9   The e-Centres were planned across Malappuram such that each e-Centre serviced approximately 1000 families, so as to make a total of 630,000 functionally e-literate individuals across the district. Each centre was assigned a list of households from the local neighbourhood and householders from that list could get their subsidized e-literacy training only from their assigned e-Centre. While most entrepreneur franchisees for the e-Centres were selected through a government tender announcement, some were created by converting existing cyber cafes. E-literacy training was also state subsidized, with the village and state governments paying

e-Centre franchisees Rs.120 per head towards the training, while each trainee paid only Rs.20. The subsidy was applicable to one member of each household. The e-literacy training was facilitated through tutor-neutral CD-ROM-based content, consisting of 10 training modules of 90-minutes each. The package was distributed to all e-Centres. The modules were played, like videos, on PCs, with trainees viewing the information on-screen. A multiple-choice test was given at the end of the last module. Every user was assumed to have passed the test, and every user who underwent the training was certified as e-literate. The e-literacy program for the entire district was completed by February 2004, implying that each household in the district had at least one member familiar with basic computing concepts. This in effect meant that the person had a basic understanding of what a computer is, how it works, and what some of its applications may be.

4.10　Meanwhile, the project team trained each entrepreneur in one of six focus areas — including multimedia, data operations, software, hardware, financial services, and community building. The set of e-Centres was geographically broken up into clusters of six and within each cluster; each entrepreneur got a different type of focus area training. The objective behind this was initially that computer access and training may not be adequate drivers for business for e-Centres, thus layering on additional technology-related services gives these centres a better chance of economic sustainability.

Three Akshaya Centres

4.11　Three centres within the Malappuram District – Kalikavu, Kizhissery and Vallikunnu — are incorporated into this case study, and were chosen with the help of the IT mission teams in Malappuram and Trivandrum with a view to the study objectives, which were principally to study the chosen centres within the social, information and technological networks in which they are embedded. Specifically, we wanted to focus upon how such networks can be an example of reliable and sustainable ICT activities. We also aimed to understand how the interventions have changed communication patterns between local and expatriate Malayali communities in the Gulf and the potential for the Akshaya project to help mediate this change.

The NICE Akshaya Centre: Kalikavu

4.12　The NICE Akshaya centre is situated in the remote panchayat of Kalikavu nestled in the foothills of the Western Ghats. Kalikavu panchayat is large and has 8438

households with a population of 50,620. Owing to migration, there are more females than males living in this area, and literacy rates are higher for men than for women. There is a religious mix in Kalikavu, with 40% being Muslim and 40% Christians. These two main religious communities co-exist peacefully and seem to have influenced each other's cultures. Muslim women, for instance, are more educated and had fewer restrictions on their mobility than their counterparts elsewhere, while the Christian women tend to marry younger at 20–22 years of age which is significantly younger than for most Kerala Christians. The Kalikavu community is heavily dependent upon agriculture. More than half the community has plantations ranging from 4–50 hectares, while others are agricultural labourers. Agricultural production focuses around rubber and coconut with other minor crops. Trade and commerce flourishes here, with women prominent in running businesses that focus primarily on the outsourcing of agricultural produce.

4.13 Kalikavu houses one sub-post office that provides telegraph services. The telephone exchange supports 1000 connections and has 930 active connections. There are only eight STD/ISD telephone booths here. There are village, state and urban co-operative banks, as well as a Kerala State Agriculture and Rural Development Bank within the area. There is one public library, with three reading rooms, and a theatre. The health facilities available in Kalikavu are elementary. There are private hospitals and the Government has provided only one small community health centre.

Kalikavu technology-mediated information networks (TINs)

4.14 Shoukath Ali was involved in the computing business well before the Akshaya program was launched, having spent time in Saudi Arabia learning computing skills. After being selected by Akshaya, Shoukath converted his Internet browsing centre into the Nice Akshaya Centre. He later obtained permission to open a second centre in a neighbouring village. The Nice Akshaya Centre looks different from other centres in Malappuram. Located in a commercial complex, in the centre of Kalikavu town, it has wall-to-wall wood panelling, stained glass doors and diffused lighting. The centre houses five computers with web cameras and headphones, a laser jet printer and scanner. The Royal Computer Training Centre next door to the Nice Akshaya Centre is where all the training, including the ones initiated by Akshaya, occurs. In total five people are employed here, four females and one male.

4.15 Shoukath is convinced that the e-literacy campaign has been an excellent way to introduce Akshaya to the local community. Not only has it helped the users, but it

has also helped him and the Akshaya brand gain the trust of the community and given them credibility. During the e-literacy campaign alone, over a thousand people were trained. Nice's computer training services include packages on learning to use Microsoft Office, Photoshop and PageMaker. Other services rely on Internet technology (such as online applications and payments), which was one the reason why Shoukath was pleased with the wireless Internet solutions that Akshaya offered. 'Before Akshaya, the BSNL dial up connection was slow and erratic.' In his view the Tulip connectivity is more reliable and easily supports audio and video transfer, thereby opening up new opportunities for business and communication.

4.16   The Nice Akshaya Centre is a hub for many governance-related services that have adopted Internet technologies. Community members use the Centre to pay their water and electricity bills, file e-complaints, acquire information about new services or schemes and download related application forms. One man, a regular visitor to the Centre, frequently comes to file complaints about his electricity bills. He observed, 'If there was no computer and Internet I would have to miss a day's work and spend at least Rs 100 on travel to go to the office. Knowing the authorities I probably have to travel once more to follow up on the complaint, making it more like Rs 200. But since the State Government has made it mandatory to sort and attend to e-complaints within 24 hours, it saves me all that time.' For the service of registering complaints on public sites Shoukath charges Rs. 100. He also undertakes printing and data entry work for the local panchayat and the World Bank Watershed Development program. Those staff members who are sufficiently well versed in computer-based skills design wedding cards, resumes and do simple desktop publishing work as added sources of income.

4.17   Shoukath's centre is also popular among the community for the Advanced Computer Proficiency Exam (ACPE) conducted by Akshaya and certified by the Computer Society of India, which is proving popular with the locals. Apart from the training, one of the main sources of sustainable income for the centre is the use of the Internet for communication, which is charged at a high-end rate of Rs 25/hour. The Internet is used for chat-related content and software downloads. Yahoo is a popular site here that offers everything from news, chat and email accounts. English-language content constitutes three quarters of the traffic and Malayalam language sites represent only a small amount of usage. Researchers emphasise that this is because Malayalam content is poorly represented in application domains. However, while content in English represents the majority of traffic, there is an overwhelming preference for Malayalam in news-related content. This suggests that other non-news Malayalam content is likely to be popular, were it to be made available.

4.18   The LIN research verified this finding, with many Centre users devising innovative means of overcoming the barriers of language and technology while communicating with their families. For example, even after undergoing the e-literacy training, one female user still did not feel comfortable using the computer. Rather than sending e-mails, she uses the Centre to scan handwritten letters. Centre staff convert these into Jpegs that are then e-mailed to her husband. Significantly, she noted that 'this way I don't spending a lot of time learning to type and I can send my letter to my husband quicker and cheaper.'

4.19   Many community members overcame similar barriers by using video conferencing. Hanza and Ayesha are an elderly couple who use videoconferencing to contact their son living in the Gulf. Staff members noted that video conferencing sessions last for two to three hours. They also commented that it is the most viable and feasible option for communication as it requires minimal computer knowledge and gives maximum face-to-face interaction, while being relatively cost effective. Chat, e-mail and Internet are also seen as helping users to develop a sense of closeness and a more stable emotional relationship with relatives in the Gulf. Kalikavu's panchayat president believes that to chat like this and at such an economical rate would be 'like heaven' for those Malayalees abroad.

4.20   A question that was posed to many of the users in the Nice Akshaya Centre concerned the effectiveness of such communication. It was noted that families now communicate using all the technologies, despite the lack of privacy. Others at the centre noted that it was sometimes harder to see computer pictures and video of their families whilst overseas and this had heightened their decision to return to India from the Gulf. The economic benefits of such communication need to be acknowledged. A 30-minute ISD phone call from UAE to Kerala costs around Rs. 900 whilst in the Nice Akshaya centre an email costs Rs. 15. The benefits of this kind of saving could be better education, quality of living, higher savings and investment opportunities, depending on how the saving is used. The attractiveness of this kind of communication and its economic viability is seen in the continual growth of these centres, while there is also an increase in the purchase of household computers. Shoukath knows numerous households that have purchased computers for Internet access since the launch of Akshaya, indicating that the duration, degree and purpose of Internet usage may begin to vary.

4.21   A good example of how the Internet can improve livelihoods is that of Tony, a plantation owner who has had a computer for more than a year. Even though he complains of the erratic power supply and the poor quality of the BSNL dial-up Internet connection, he admits that the Internet has brought another world of

knowledge into his home. He accesses the state website to check the market prices of areca nut, rubber and vanilla which helps him plan cropping and transporting decisions. Tony also has found the Internet useful for his hobbies of coin collection and sculpting and he uses the net to 'read about their value and history'. Many of Tony's friends, who are also planters, take pictures of their vanilla saplings and send them to potential buyers via the Internet.

4.22 One persistent source of grievance among community members here, as well as Shoukath himself, was Akshaya's failure to deliver a sizeable component of local information to the network for circulation within it. As stated in the introduction to the Akshaya case study, one of its secondary objectives was to provide local content and content creation opportunities to communities. However, to date, Akshaya has managed to produce only three CDs: on education, law and agriculture. However, even this material was not being used in the Centres and its relevance has been questioned.

The INFOCOM Akshaya Computer Centre: Vallikkunnu

4.23 The Vallikkunnu panchayat belongs to the Thirurangadi Block. Compared to Kalikavu it is much smaller in area and has a high density of population. Vallikkunnu panchayat has a population of about 35515 people living in 5625 households. 88.41% of this community is literate. It has fertile soil and is covered with coconut and paddy fields. Compared to Kizhissery and Kalikavu, Vallikkunnu is centrally located and accessible by road and rail. It even has its own railway station, connecting it to different parts of Kerala. Hindus dominate the population, with a smaller fishing community of Muslims also being present in the area. Working for the armed forces or at universities is commonplace here. Those so employed tend to live in occupation-based residential clusters. An equal proportion of households are engaged in agriculture.

Vallikkunnu social information networks (SINs)

4.24 Communication services are sparse, with only one branch post office and four STD/ISD phone booths. Vallikkunnu does not have a telephone exchange in the panchayat area, but three mobile operators have become available. Vallikkunnu residents have moderately good access to financial institutions. There is one commercial bank, a Grameen bank and two co-operative credit societies. Its health services are dominated by the private sector with the Government health services consisting of just two poorly staffed primary health centres. The closest large government hospital is at Thirurangandi.

4.25 In 2002 the Vallikkunnu panchayat won the state level-best panchayat award. It also elected the first woman to the post of panchayat president. The visibility of women in this constituency is marked. The Kudumbasree scheme (government-facilitated micro-credit program) is very active with more than 176 ayalkootams (Self Help Groups). The panchayat also provided a mobile library and catering service run by and for women. However, panchayat members acknowledged that most of these businesses had shut down, as they were not financially viable.

4.26 Public spaces tend to be the domain of Valllikunnu's youth, who are also the most active users of such spaces. There is one public library with ten reading-rooms, eight community entertainment centres housed with television and radios, three adult education centres and one community hall. Many art clubs are registered, signifying the high levels of youth activity. Members of the Youth Social Association (YSA) explained that these clubs provide a forum where social interaction among individuals of different religious backgrounds is encouraged. The members of this youth club are mostly students, as well as young local entrepreneurs, such as bakery workers, electricians and truck drivers. The YSA has also adopted the health sub-centre in Pothumkuzhikadu. Club members volunteer to maintain and clean it whenever required. They have also conducted many health camps, seminars and workshops on various illnesses. The club organizes fund-raising plays, theatre workshops; quiz competitions and numerous cultural competitions for youngsters in the area.

4.27 Members were of the view that there were many advantages to be had from joining these clubs. For instance, Lineesh, a truck driver said: 'for me this is the perfect break from my work. I get to meet friends, share ideas, and organize plays and exhibitions. The club helps to nurture the creative side in you as well as giving me the confidence to go on stage and talk to an audience'. All members of the club acknowledged that there was a strong degree of social separation between the town-based community of Vallikkunnu and the Muslim fishing community by the coast. Some felt that poverty was the main barrier while others felt that it had more to do with Muslim orthodoxy. Currently, the club is trying to raise funds to build a library to help overcome this barrier. Says Abid 'if we have a library, then we could coax people from the fishing colony to come and interact with others from the town. We lack a place for the people to come and sit and talk.'

Vallikkunnu technology-mediated information networks (TINs)

4.28 The INFOCOM Akshaya Centre in Vallikkunnu was especially chosen for this study to illustrate the development and scope of female-led entrepreneurial work within Akshaya.

While a third of enrolments in the e-literacy campaign in Malappuram district were women, only a tenth of entrepreneurs in the Akshaya initiative are female. The reasons for this may reside in a combination of factors relating to religious orthodoxy throughout Kerala, as well as the difficulties women have in obtaining credit. As with Shoukath and Mujeeb, Rajshree's introduction to computers came long before the Akshaya initiative. After finishing her degree, Rajshree completed a diploma in computer engineering. At about the same time, her father, Madhavan retired and invested in setting up the INFOCOM Computer Centre in Vallikkunnu with his daughter. Rajshree started small by installing two computers, in a hired room, and offering basic MS office computer training. She says that she soon became well known in her community as the 'computer centre lady'. When the Akshaya program rolled out, she was an obvious candidate.

4.29   Rajshree's centre is located in a commercial complex of the town centre and is open from 7:30 a.m. to 8:00 p.m. every day. There are six computers, two printers and a scanner. The Tulip wireless Internet connection is fast and reliable and is rapidly becoming a major source of income for Rajshree's centre. The Centre primarily focuses on computer training and has only recently developed Internet services. The team at this centre are two local women who help with the computer training. In addition, Rajshree's brother, who has a computer hardware-servicing diploma, is employed at the Centre to maintain its computer equipment and to perform general technology support services as required. Madhavan, Rajshree's father, has assumed a more administrative role, taking care of the accounts and the e-pay services.

4.30   About fifty people visit this Centre everyday, increasing on weekends and summer holidays. Of these fifty, forty or so come to the Centre to attend the computer courses while those remaining come to use e-mail, browse, chat or video conference via the Internet. Besides the usual MS office courses, the Centre also specialise in the certified Tally (financial accounts management software) and Desktop Publishing courses. Rajshree's relationship with her students and the community is amiable and social. She says 'I have a lot of women and retired people coming to this centre. The women especially find it comfortable as there is no intruding presence of men'. This view was affirmed by Khadeeja, a mother who visits the Centre regularly to videoconference with her daughter, Suhara, who lives in Jiddah, in Saudi Arabia. 'Rajshree is like my daughter and I absolutely trust her to keep things to herself. In fact, my daughter has advised me to chat only from the Akshaya centre since there are not too many men around.' Likewise, Divya a regular Internet user from the centre noted that 'Akshaya is actually an information centre, e- pay centre and Internet centre all rolled into one. That's the advantage. You cannot live around an Akshaya centre without having stepped in there at one time or another.'

4.31   Divya visits the centre to apply for jobs online. 'I come to the centre at least once a week. When I am expecting responses from potential employers I come more often.' Divya finds the process of applying online hassle-free. 'To date I have posted my resume on sites like Ram Register and Fresher's world. I received two calls and made it to the last round but could not get the job'. Divya says that she heard about these sites from her friends in college and shared this information with other girls who come to this Centre. A contrasting picture, however, was found by the youth of the community. During a group discussion with about ten boys, they professed their support for Rajshree and the Akshaya initiative. Most of them are also avid Internet users but hesitate to do so in this centre. They mostly use the net to read newspapers, find updates on films and cinema stars and to surf adult sites. 'We don't have privacy at the INFOCOM Centre. Rajshree is like a sister to all of us and we don't feel comfortable chatting with girls on the net here or surfing adult sites.'

4.32   An interesting trend observed during the research was the continuing use of technology and the Internet beyond the centre. We came across many community members who had purchased computers. For example, the elderly Mr. Vijayan's first introduction to computers came from an unlikely source. 'I had gone to visit my daughter; her six year old son taught me how to use Paintbrush. He was quite adept at it, whereas I was struggling. It was then that I decided that I too wanted to learn to use this. I bought my own PC and enrolled at INFOCOM to learn computers.' During his course Rajshree introduced Vijayan to the world of virtual communication and soon afterwards, he got a BSNL dial-up connection. Vijayan is especially excited about the opportunity that the Internet has provided to make new friends because he suffers from frail health.

4.33   Vijayan has made friends from all over the world and enjoys his experiences as a form of alternate virtual socialising. 'It is my habit to get up by four in the morning. That is the time I usually go online. I don't remember which chat rooms exactly that I go into. I pretty much try out all the chat rooms that I feel are interesting. If some of the rooms turn out to be bad ones, I exit them. Sometimes people anger me, and sometimes, when I like a person, I also take the initiative. Recently I met this man from the Gulf. After chatting, he wanted to see me. It was 11pm and I had removed my false teeth. I told him this and he said it didn't matter. So I turned on my web cam and we saw each other. He even came to visit me with his family when he came to India.' Vijayan says that the Internet has completely changed his perception of knowledge and access. He noted that when he was younger information was difficult to obtain but the Internet had changed this.

4.34 During the research a perception that school teachers were hesitating to use new technologies was gained. Vijayan agreed, saying 'a teacher doesn't like to appear in the role of a student. Or admit that they don't know something. Even kids today know a lot more about computers than their teachers and so teachers tend to shy away from IT.' One example of a schoolteacher who is less than besotted with the possibilities offered by computers and the Internet is Vidhyadharan. Although like Vijayan, he acknowledges that computers are a valuable resource, he prefers to use them as a teaching tool rather than a communication one. Using computers enables him to make grammar worksheets and question papers for students rather than by hand which is time consuming. He says that he is aware that the Internet is a storehouse of information but has not yet got around to using it. When he finds the need to work on a computer he comes to the Centre but he has not yet found the need to purchase one himself. Even though the Government of Kerala has made IT education mandatory for high schools, Vidhyadharan finds the practice of IT, and the training offered by the Akshaya Centres, inadequate, as it is basic.

4.35 Thanks to the good rapport that Rajshree shares with the women of Vallikkunnu, the panchayat has consistently supported the INFOCOM Akshaya Centre. Students selected by the panchayat are trained in the INFOCOM Centre and they get a discount on courses. However, as strongly as the panchayat women leaders feel about the importance of computer education, they expressed that they saw no scope for it to add value to the lives of poor people, such as the local fishing community. Importantly, it was noted that very few people from that community have taken part in Akshaya. Some of them have neither houses nor even the basic amenities. Learning computers is the last thing on their list of priorities. Significantly, in many conversations with community members there was a certain reserve when the Hindu majority of Vallikkunnu talked about the fishing community. They were referred to as 'outsiders' and that they believed that the fishing community was 'too backward and uneducated' to benefit from Akshaya.

4.36 A group discussion with women from the fishing community itself revealed other perspectives. The fishing colony is about a kilometre from the centre. Its households consist mainly of adherents of Islam. According to the fisheries department, 150 of the 545 households live in thatched huts and are at the mercy of fluctuating weather conditions. The community lacks access to decent shelter, good nutrition, education and knowledge. It became apparent from the discussions that the government's failure to provide basic services like clean water and adequate shelter, as well as the community's culture of dowry, child marriage and early childbirth all contributed to their poverty. Most women and youth seemed aware of the existence of the INFOCOM Akshaya Centre but due to practical problems like lack of time, education, personal confidence and restrictions imposed by the menfolk, they had not participated in the program. In this case, it seems that the social divide between the two communities is reflected in the differential patterns of ICT access and use among them.

The SPICE Akshaya Centre: Kizhissery

4.37 The SPICE Akshaya Centre is located in the village of Kizhissery, belonging to the Kuzhimanna panchayat. Kizhissery is about 30 kilometres away from the main town of Malappuram. The Centre is located along the main road as are most of the area's key trade, health and agriculture-related establishments. People from about 14 surrounding villages visit the centre and Kizhissery is well serviced by buses. Agriculture is a main source of income for most families here. The majority of them are wage workers on fields, the average male farm wage worker in the neighbouring state of Karnataka would earn Rs. 75–100 per day, in Kerala the same worker would be able to earn close to Rs 250–300 due to the states labour policies.

4.38 The poorest sector of Kizhissery's population tends to live in clusters away from the main town. The cluster visited was called 'the lakh houses', named after a scheme introduced by the State Government to build houses at a cost one lakh each for households below the poverty line. The houses were distinctive in that all conformed to a basic duplex plan in which two houses share a common wall. Also, all the houses were thatched, thus providing low-cost insulation to occupants. Residents explained that they had access to basic amenities like health, water and electricity. The only thing that seemed to distinguish them from the rest of society was their low caste status. This can be such a handicap that in many areas families were changing their religion to Christianity in order to escape the constraints of the caste system.

4.39 'I could be like others, closing doors, calling this centre mine and authorising who goes and comes. But then where is the community in this? This is first a community centre before anything else.' This is how Mujeeb Rahman, entrepreneur of the SPICE Akshaya Centre in Kizhissery introduced his centre. Mujeeb is well educated with an interest in computers. As soon as he heard about Akshaya he sent the authorities a letter expressing his interest. His interest was 'to use IT for service deliverables in rural communities.' Once he was in the project he went through the whole cycle of orientation through field and office visits, and different workshops and training. Today, the Akshaya project office in Malappuram distinguishes his centre as a model one and the centre has witnessed an influx of users and visitors.

4.40 Opening in May 2003 the centre required an initial investment of Rs 4 lakh for which Mujeeb borrowed Rs 2 lakh from the local Grameen Bank whilst investing Rs 2 lakh from personal savings. The centre is located on the first floor in a commercial complex on the main road. The centre comprises three large rooms. The lounge area houses Mujeeb's office, a notice board and has a computer located in a private cubicle. The computer room has ten computers, spaced at comfortable intervals from one another and the third room is a teaching area where theory classes are conducted. Mujeeb is assisted by his younger brother and has also hired three locals (one woman and two men) who train the students and manage accounts. The centre stays open from 8 am to 8 pm every day.

4.41 Newspaper clippings in the office archives indicate a huge publicity campaign in the state media for the centre. As part of the enrolment plan, each entrepreneur was supposed to conduct a household survey to recruit the 1000 members who would undertake the e-literacy training. In Mujeeb's case it took three rounds of surveys to achieve the target enrolments. In total the SPICE centre conducted the 10-day course for 806 people. For each person the centre received Rs. 120 to cover the

training costs and the SPICE centre accordingly made about Rs 1 lakh within the first month of its operation. According to Mujeeb, the financial benefits from the e-literacy phase not only gave him the confidence to explore further training, but also elicited the community's trust in him. This trust is clearly vital to the success of the program. He says: 'The e-literacy campaign changed the perception that computers are supposed to be kept in AC rooms and only used by the well educated. Second it gave people the confidence to use it for their own needs, be it communication or jobs.'

4.42 At the district level, the e-literacy campaign also had some interesting gender-related outcomes. Two thirds of the people who came to study were women. The general opinion of the women was that this was because of the practicalities of people's lives; women were more likely to be available during the daytime. However, in many situations, like the one in Kizhissery, the opportunity turned out to be particularly empowering for those women whose mobility was otherwise restricted. Aleema, a Muslim woman aged 35 who had attended various classes at Akshaya, explains: 'After the training, I sent a few mails to my husband in the Gulf. But since I don't know English I prefer talking on the phone.' Aleema says that she speaks with her husband for 10 minutes almost every other day. She is eagerly awaiting the commencement of the video conferencing facility in the SPICE centre that will allow her to talk with her husband 'face-to-face'.

4.43 The centre also represents a departure from the Muslim orthodoxy that exists within the community. Here, girls and boys interact freely and many girls do not cover their head with veils when they are inside. Additionally, in Kizhissery, there seems to be an abundance of volunteers, and it was noted that one Sunday afternoon the researcher witnessed volunteers cleaning and mopping the centre in Mujeeb's presence. Says one such volunteer, Febna: 'This is the only place outside our house where we can be ourselves. We learn a lot, not only from the computers, but from the people that we interact with.' Febna and her group of friends, have completed their computer course, but continue to be associated with the centre. At present they are helping Mujeeb document the cultural practises of Kizhissery for a magazine that the centre is publishing.

4.44 The SPICE Akshaya Centre's main source of revenue comes from the trainings. Mujeeb says that he has been unable to educate all the expatriate families about virtual communication and its economic benefits. Despite this, his centre still makes a profit. Importantly, Mujeeb admits Akshaya has not been able to sustain contact with poorer people. During a visit to the poorer areas of Kizhissery it was noted that after the e-literacy campaign, neither the centre nor the panchayat, were successfully able to incorporate the poor. Mujeeb noted that he had 'walked

in and out of these houses trying to understand how to get them to the centre. Akshaya is not able to extend the project in a way to reach the poor, to fulfil their needs, on a service deliverable way.'

4.45   In a state where unemployment is increasing, Mujeeb understands that computer training will have to complement information services to become securely sustainable. Mujeeb's future plan for the SPICE Akshaya centre is to make it a conduit between the Government and its citizens. At the time of writing this case study he was planning research for the formation of a database of information services for the community. Mujeeb feels that a 'services on demand model' in which information technology caters to community needs and fulfils access to an ever-increasing range of e-services is what will sustain the centre into the future.

Kizhissery social information networks (SINs)

4.46   The Muslim religious ethos imposes strict standards of public behaviour in Kizhissery, especially upon women. Women are required to wear scarves and are strongly discouraged from walking in public places after sunset. All Muslim children are required to spend at least two years of their lives in the mosque learning Arabic and the Koran. Apart from a cinema, there are few social outlets for village youths, and none for young women. On the other hand, in the privacy of their own homes, women, seem to enjoy a great deal of freedom to express their opinions to their families. Moreover, they are actively involved with their neighbours and local neighbourhood networks. So strong is women's focus upon the domestic and neighbourhood sphere that they often have little knowledge of what is going on in the wider world.

4.47   Yet present-day restrictions on female mobility and freedoms do seem to have eased significantly in Kizhissery. This is reflected in both women's attendance at the centre during the e-literacy campaign and their continued attendance at the centre subsequently. This inspired the owner Mujeeb to start a 'women's club'. The club, which is now defunct, gave women the opportunity to meet other women and discuss relevant issues. According to Mujeeb, while the club was operational its members were active in inviting panchayat officials to attend and encouraging women entrepreneurs to share their experiences. 'All the women who gathered here enjoyed their freedom to express themselves and exchange their experiences but ultimately it could not be sustained due to lack of money for things like tea and chairs.'

4.48 Indeed, one of the biggest spin offs of the e-literacy campaign was the tone it set for sustained contact between the beneficiary families and the Akshaya centres. In Aleema's case, her son Ashique Jaisel, 13 years old, enrolled himself in the INTEL training provided at the SPICE centre. After recognising their son's interest in computers, Aleema's husband (who had been working in Saudi Arabia) brought back a computer for the home. Ashique Jaisel continued his learning at the SPICE centre by enrolling in another course and also picking up some web programming skills. Like Aleema, many mothers who participated in the e-literacy program say that they are very comfortable with the idea of their children spending time at the centre because they have been there and know that it is safe and has the approval of the community. As one respondent noted, 'Mujeeb is a man that we trust completely. We know that if they do something that they are not supposed to do, he will correct them better than we can!'

4.49 Another feature of the community's social information networks is the migrant worker. Community members indicate that approximately a third of households in Kizhissery have at least one member living in the Middle East at any given time. Usman, a 32 year-old salesman who works in Saudi Arabia, is concerned about the psychological and socio-economic impact of emigration. He acknowledges that many emigrant workers feel the pressure of having to support their families financially. The general perception is that anybody who works in the Gulf is rich, which in most cases is not true. However, economic migration does bring substantial change, from food habits, to clothes, to aspirations. Usman notes that 'when families from here (Kerala) call and ask to send Rs. 15,000 (US$333) we immediately try and arrange for the money. If we tell them that we don't have the money and have to borrow it, they find it hard to believe or think that we are lying.' When asked whether he saw any relationship between the fact that Malappuram had the highest number of emigrants as well as divorce cases, he said: 'You get to spend so little time with your wife and children. So when I get letters or phone calls, only to hear my wife for example, complain about my mother, or brother, then it becomes really depressing. It is really difficult to stay away (in the Gulf). The attachment to family is expected, but the attachment to a wife is 'heart-to-heart'.

4.50 Discussions with community members reveal that the prospect of spending part or even most of one's life in the Gulf is instilled early in life. Given the lack of job and business opportunities in Kerala, most families consider going to the Middle East as their escape route out of poverty and a means of salvation for their families. This means that the landscape is filled with large houses containing small families. Frequently the migrant worker has to return to the Gulf in order to sustain his family's new high-consumption lifestyle.

Kizhissery technology-mediated information networks (TINs)

4.51 Newspaper reading habits among Keralites are very strong with the most popular newspapers being Malayalam Manorama and Mathrubhumi. In Malapuram Chandrika, the newspaper owned by the Muslim League Party, is also popular. Mainstream English newspapers have occasionally run stories on factories in the Kannur district where newspaper reading through a microphone was encouraged so that workers could carry on with their tasks. There are two sub-district post offices within the panchayat. The telephone exchange of Kizhissery is located in Kuzhimanna that has connections capacity for 1000 with only 528 active phone connections. The only mobile phone service provider is BSNL, and the connections are in much demand. Community members were of the opinion that it takes about six to eight months to receive a connection. There are about 12 public phone booths in the area and Internet is available only in the Akshaya centre.

4.52 The local cable operator Abdul Kareem owns a cable network of 600 connections. He says that even though there are 3000 households with television sets in Kizhissery, people prefer not to get a satellite as they are worried about its effect on their children's education. A householder noted that he thought TV invades the privacy and personal communication in a family. There are seven Malayalam television channels and political parties support regional TV. For example, the parties on the Left support Kairali TV. The content is diverse with many stand-up comedies and mimicry shows as well as segments like Kannadi, a documentary segment, and Asianet, which investigates more serious socio-political issues. The cable TV provider in Kizhissery airs about 32 channels in five languages including Arabic. This costs subscribers Rs 100 per month. The channels cover the range of subjects like news, sports, religion, entertainment, movies and so on.

4.53 Another unique new trend in television media in Kerala is its expansion into the Gulf. The first regional Indian television channel catering to the Malayali population in the Gulf was the abovementioned Asianet, which in 2002 launched a 24-hour channel called Asianet Global. Asianet has also diversified into radio and has production wings situated in the Middle East. Many of the Kizhissery families with relatives in the Middle East can keep informed of events there by accessing these television channels. Most mentioned that viewing events like the Dubai Shopping Festival or prayer ceremonies in Mecca helped them to better understand Middle Eastern culture. Conversely, Malayali labourers, from Sharjah labour camp in the UAE, regularly tuned into Malayalam radio channels, as well as the four television channels, in order to keep informed of developments in Kerala. Apart from current

affairs, these migrant workers particularly enjoyed hearing or viewing the latest cinema and songs from Kerala.

4.54   New technologies appear relatively naturalised in Kizhissery, perhaps due to their use in communicating with relatives in the Gulf, and it was not unusual to come across both old and young people discussing computer hardware or software specifications with ease and confidence. Mr Hazi, 75, is one such person. He first read about the Akshaya SPICE centre on a poster. He then enrolled for the e-literacy campaign. Now he says that he thoroughly enjoys playing games on the computer. The world, according to Mr. Hazi, is becoming 'as small as his fist' and it is important to be a part of this change. He noted that the generosity and the encouragement of the staff at the centre made him feel that he was not too old to learn and understand technology.

4.55   About 60% of the people using the centre are girls. The computers have a variety of games, design and communication software stored on them. Music plays intermittently. The overall feel has more of the relaxed, informal atmosphere of a community centre than that of a sterile computer-training centre. The atmosphere here is conducive to learning in a non-classroom like mode. Staff maintain friendly relations with the students and the discussions are not restricted to computer courses and business.

4.56   Using chat rooms were also popular. As Sidiqque notes, with chat rooms 'there are no judgements made as to how one looks or behaves'. Upon entering a chat room, he sends all members on the list a message like 'any Keralite in this room? Usually, there will be a lot of messages and in this way I have made a lot of friends from many parts of the world'. He added that when someone comes across online as very nice he even passes that person's ID to his friends in the centre so that they can all chat with each other. From enrolling in mailing lists to applying for jobs, chatting with friends and family or reading Malayalam newspapers online local people are using the Internet for a wide range of purposes.

Discussion and analysis: Comparing Akshaya with UNESCO-supported initiatives

4.57   The primary objective of this study of Akshaya has been to map out specific aspects of the social and technology-mediated networks that the initiative helps to facilitate. However, since this project is beyond the scope of UNESCO's work in India it is perhaps worthwhile to consider instead some of the more salient differences between

Akshaya and the two UNESCO initiatives discussed earlier. The most striking difference is one of scale. While Nabanna and Namma Dhwani both operate in a maximum of five centres, the district-wide operations of Akshaya constitute a total of 630 centres. The project has a sound financial footing due to its backing by the State Government and municipality which together invested 13.2 crores in the program/ project. It is also amply supported by the technical teams at KSITM and TULIP and given entrepreneurial training by STED (Science and Technology Entrepreneurship Development). Despite the delays in bank loans to the entrepreneurs, the time lag between project phases and problems in accomplishing complete wireless Internet connectivity, the project has achieved an impressive level of success in putting into place various administrative, technical and training responsibilities.

4.58   The critical difference between the two project categories — Akshaya and UNESCO's CCTs–lies in Akshaya's strategy of involving and building ICT entrepreneurs from the community. In contrast, both Nabanna and Namma Dhwani are projects that are working with the community, but nonetheless have largely conceived and executed by the NGO partners. Based on the project costs mentioned above, on average the Keralan Government has spent more than two lakhs per centre, in the form of loans extended to entrepreneurs to establish new or existing ICT centres as Akshaya Centres. Akshaya then is operating within a, economic model that places the onus on each initiative and individual owner, in terms of its social and financial sustainability.

4.59   The spin-off of this strategy is multi-dimensional. Because the centre is owned and managed by community members we noticed that it is immediately accepted as part of the communicative ecology. The e-literacy campaign not only introduced computers to the community but also encouraged its members to accept the Centre as a social community space. This then led to increased levels of trust between the community and the entrepreneurs that the others were lacking. We can also speculate that the kind of social stability and co-operation these Centres have been able to reap will contribute to their long-term financial sustainability. The content and training resources that flow within this local information network such as the e-Vidya computer course and the e-literacy campaign tutorial CDs, offer a degree of sameness and branding but also allows for local entrepreneurs to cater to specific community needs.

4.60   In the Namma Dhwani and Nabanna case studies we discussed the projects' various experiments to engage local governments. Owing to the available technical infrastructure (Internet connectivity, services of the FRIENDS program) and trained human resources (local entrepreneurs), the Akshaya centres seem better positioned to develop into decentralised government service delivery points that promote

transparency in governance using ICTs. Apart from being a socio-technical network, Akshaya can now anticipate a growing level of collaborations with businesses offering services such as e-ticketing, money transfers and insurance. Though there have been meetings between entrepreneurs and business houses towards generating a business-to-business model, there has been no sustained progress towards using this LIN for more than just communication purposes.

4.61   Importantly, a common complaint among most of the entrepreneurs and community members was the lack of locally relevant content within the information network of Akshaya. As mentioned earlier the project has introduced CD-ROMS relating to agriculture, law, health and education, yet the Centres rarely use them. It is likely that low levels of use have less to do with the actual content and more to do with the medium of the message and instruction. It would be beneficial for the project to devise training methods that facilitated local content production and distribution employing a two-way communication process between community and staff.

4.62   One of the unplanned impact areas of Akshaya lies in the improvement and development of communication between families in Malappuram and the expatriate population. This case study provides ample evidence to indicate that the Akshaya Centres have been instrumental in improving the quality and frequency of communication between separated family members, in improving the economic viability of virtual communication and providing an increasing and constant source of income for the Akshaya centres. In light of Akshaya's further plans of expansion to other Kerala districts, research has shown that there is ample opportunity to further explore ways of expanding those local information networks which extend to the Gulf countries. However, the researchers found that many expatriates are living in labour camps on the periphery of cities and do not have access to any kind of ICT facilities with no knowledge of computing and Internet technology and spend close to one fifth of their monthly income on telephone calls to families in Kerala. There would need to more of a matching up of resources for this to be effective.

4.63   In view of the new restrictive migration policies in the Gulf and Kerala's decision to develop its knowledge-based sector, detailed research into the communication needs and present state of ICT awareness of the expatriate population needs to be undertaken. The potential of extending Akshaya ICT facilities would not only facilitate better communication, with a direct improvement in the quality of family lives and positive impacts on savings, but it would also open up unlimited opportunities to develop training resources, up-grade human resources and improve trade and job opportunities.

5. Conclusion

5.1   This study of local information networks in three discrete sites in India reveals the complex ways in which social and technological factors impact upon the efficacy of communication processes, especially those that seek to target the poor. While separating the social from the technical within this study has been very useful for analytical purposes, the study team recognises that these new media technologies are deeply embedded in social relationships and are put to social ends. In practice, the technological and social are fundamentally intertwined and interdependent. Nonetheless, the individual case studies of the Namma Dhwani Media Centre Organisation, the Nabanna Information Network for Women and the Akshaya e-Literacy Project reveal approaches to the issue of the community integration of new ICTs that differ significantly from one another, as well as having different objectives. For example, the problems associated with technology rollout in Nabanna led to greater reliance upon social networks, whereas the strong technical infrastructure present in the Akshaya case study resulted in weaker engagement with local social networks. Similarly in Namma Dwani, where an attempt to bridge the technological and social dimensions of the network was sought, the dominance of the management committee in defining and producing the topics for content creation significantly weakened community involvement within such processes.

5.2   In terms of approach it is worth recapping the broad scope of each initiative. Namma Dwani, with its focus on radio, has managed to involve community groups and volunteers, especially women. There is perhaps untapped potential in this particular initiative to reach out to social networks and continue the important process of referring them to key bodies of information and local services that might ameliorate their poverty or in some way bolster their livelihoods. The strength of the organising NGOs and its management committee has brought important social themes such as gender, governance and health to the local content created by the station, but the strength of this committee has also weakened and limited community involvement in the same content creation process. The extent to which content resonates to local concerns and is able to adapt as the nature of the problem shifts thus remains questionable. Further, the perception of a dominant management structure has weakened volunteer capacity over time and eroded the initiative's impact. The inability of the radio station to compete with television and especially serial dramas suggests that future research efforts should seek to examine where local communication niches exist, what media formats should be used to fill them and what type of content should be used to do so. Here, strengthening

the feedback mechanism from the community via the research process may be one way of enhancing both wider participation and content creation. Overall, the primary success of the initiative has been in changing the way local people think about (local) governance and health. Namma Dhwani showed that it was able to counteract a real lack of local, relevant information in these areas. This has given the community at large and its individual members the knowledge to assist them in making better decisions. There is no doubt that over time, this can influence the quality of their lives for the better.

5.3   Nabanna is a very different kind of initiative, one that is less reliant on fixed-site technology and more reliant on networks and mobile technology to get its content across. In a location where there is very limited Internet connectivity and travel to the fixed centres is resource-intensive in terms of women's time and money, the use of mobile technology to distribute information has been highly effective. Here, laptops, handheld computers and digital cameras – in tandem with a solid research process - have been utilised to generate locally produced content for sharing and discussing within existing and newly established social information networks. While some of the networks have not progressed far towards achieving sustainability, the multi-channel approach to information dissemination –, i.e. a blend of social and technological communication – has been successful in reaching the poor. The research process, strong poverty focus and establishment of local information groups has helped to raise and discuss important local issues, such as those associated with dowry or diarrhoea. The Nabanna case study highlights the importance of finding innovative ways of connecting the social with the technical. The initiative has very actively sought out the poorest members of the community and endeavoured to identify their information needs.

5.4   Unlike Namma Dhwanior Nabanna, the Akshaya initiative is principally reliant upon community members coming into its centres to access and use the available technology. The availability of a reliable Internet service has resulted in an emphasis upon the technology which it enables. The dominance of technological factors in this project locates Akshaya further along the technology-mediated information network (TIN) end of the local information network continuum. It is less concerned with supporting cultural development for its own sake such as by producing local content or reaching the poorest. The limited content that has been produced to date for circulation within the network has been criticised for its irrelevance, and given that the initiative is not part of the EAR network, there is little integration of research into its work. This means that the initiative, though on a different scale to the other examples cited in this study, could nonetheless benefit from integrating a research

component into its work to bring the information needs of the poor more squarely within its remit. This combined with attempts to fulfil the information needs of the poor with relevant local content and the extensive e-literacy training that has been conducted, could make the Akshaya initiative more relevant to a wider cross section of society than it currently reaches.

5.5   Each of the three initiatives – Namma Dhwani, Nabanna and Akshaya – demonstrates, in its own way, how difficult it can be to reach the poor or to facilitate access to the centres. The extreme poor often exclude themselves from ICT initiatives due to an assumption that they are not its intended beneficiaries. Therefore it is critical that in focusing on upon poverty reduction through the facilitation of new media skills and ICT literacy among the poor, that a given project's potential for poverty reduction is given precedence. The extreme poor may never engage in Internet chat or apply for jobs online, but the studies in this paper do enable some generalisations to be made. Ultimately, the LIN research shows that:

(i)   The technical dimensions of communication can never be fully divorced from the social if we are to genuinely reach the poor with the information they need. Investment in social networks is critical since word of mouth remains the most powerful, intimate and effective form of communication available to the very poor. The key to achieving success is the quality, reliability and relevance of the information communicated.

(ii)   A research process that is embedded in ICT initiatives can reap rewards in terms of closing the social distance between the centres and the poor communities they are trying to reach. For too long seen as a luxury, increasingly the local information worker/researcher is seen as an 'animator' who acts to bridge the critical 'gaps' that exist between sources of information and those who most need access to it. Powerful debates around the 'first mile of connectivity' resonate with the need to further enhance the role of such animators working at this critical interface.

(iii) Equally, the study highlights the need to genuinely connect local content creation to local people, be it through centres, through local information workers or through mobile technologies. Here, the balancing of social and commercial objectives is critical. No initiative that seeks to sustain itself in the long term can survive without engaging a broad cross section of society to use and consume its services. Equally, the role that volunteers play in building social sustainability and trust is important. Solely focusing on reaching the extreme poor may ultimately be commercially unsustainable, while commercial success may deflect projects from their social objectives. The role of animators can again

be seen as a potential way to ease this tension, especially where the provision of mobile ICT services to poor and remote communities can be established.

5.6   Ultimately, local information networks are highly diverse and draw upon various social and technological elements in their functioning. What is clear though is that in reaching the poor, technology alone is not sufficient. Technology is not a panacea for the much more difficult issue of including poor people in local information networks that provide local information and content that is relevant to addressing some of the daily challenges that they face.

Local Information Networks: Social and Technological considerations

Notes

Notes

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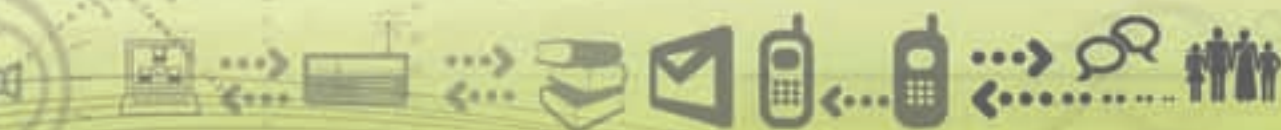
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