



United Nations
Educational, Scientific and
Cultural Organization



United Nations
Educational, Scientific and
Cultural Organization

POVERTY AND DIGITAL INCLUSION

**Preliminary Findings of
Finding a Voice Project**



QUT

Queensland University of Technology



Australian Government
Australian Research Council



THE UNIVERSITY
OF ADELAIDE
AUSTRALIA

POVERTY AND DIGITAL INCLUSION

**Preliminary Findings of
Finding a Voice Project**

Andrew Skuse, Joann Fildes, Jo Tacchi
Kirsty Martin, Emma Baulch

October 2007

© UNESCO (2007)

ISBN- 81-89218-14-x

This publication may be produced in any media appropriately
acknowledging UNESCO and the authors
Please send in comments about this publication to
newdelhi@unesco.org

Cover Photo: Mukunda Bogati/UNESCO
Design, Typesetting & Graphics: Nikhil Offset Printers, New Delhi

Published by:
The United Nations Educational Scientific & Cultural Organization
(UNESCO)
UNESCO House
B-5/29, Safdarjung Enclave
New Delhi - 110019
India
Phone: +91-11-26713000
Fax: +91-11-26713001/2
E-mail: newdelhi@unesco.org
Web: <http://www.unesco.org/newdelhi>

Disclaimer

The authors are responsible for the choice and the presentation of the facts contained in this publication and the opinions expressed therein are not necessarily those of UNESCO or UNDP. The designations employed and the presentation of materials throughout the publication do not imply the expression of any opinion whatsoever on the part of UNESCO or UNDP concerning the legal status of any country, territory, city or area or of its frontiers or boundaries.

Acknowledgements

This paper was written by Andrew Skuse and Joann Fildes from the University of Adelaide and Jo Tacchi, Kirsty Martin and Emma Baulch from Queensland University of Technology. Valuable additional commentary and support was provided by Kiran Mullenahalli, Karma Tshering and Seema Nair. A debt of thanks is owed to the ethnographic action researchers working in the various ICT initiatives spread throughout South Asia and Indonesia, namely: Aseem Asha Usman, Atul Sharma, Boediyanto, Deepak Koirala, Govinda Acharya, Jancy Francis, Kosala Keerthirathne, Munsir Salam, Rupa Pandey, Sita Adhikari, Srinivas Bangaru, Suhardi, Suram Sasrika Pahalagama, and Tanweer Azam. Further thanks go to UNESCO, UNDP and the Australian Research Council for institutional and financial support and to Pe-PP (Partnerships for e-Prosperity for the Poor) for facilitation.

Finding a Voice

Finding a Voice is a network of fifteen local community media and ICT initiatives across India, Nepal, Sri Lanka and Indonesia. Local embedded ethnographic action researchers work in each of these initiatives, with the goal of understanding how creative engagement with ICTs can be both effective and empowering for positive social change.


Information and Communication Technologies (ICTs) can contribute to the development of marginalised communities, but they need to be introduced in ways that recognise local social networks and cultural contexts. This research takes a participatory approach, aiming to empower people through finding their own 'voice', which is defined as: inclusion and participation in social, political and economic processes, meaning making, autonomy and expression.

One of the main aims of Finding a Voice is to investigate the most effective ways of articulating information and communication networks (both social and technological) to empower poor people to communicate their 'voices' within their communities. Research investigates opportunities and constraints for local content creation (content created by and for specific local communities) for the development and communication of ideas, information and perspectives appropriate to those communities.

Finding a Voice has two main activities and outcomes:

1. Ethnographic Action Research (EAR) - a research and development methodology for improving the effectiveness of community-based media and ICT centres.
2. Participatory local content creation - a variety of content creation activities are being undertaken and researched across the ICT initiatives and a transferable set of principles and processes for participatory content creation is being developed.

Using ethnographic principles and methods along with participatory techniques to guide the research process and action research is used to link the findings back in to the initiative through the development and planning of new activities. Twelve local EAR researchers are embedded in the 15 community media and ICT initiatives. The idea is to build the capacity of these centres by giving them the skills to conduct ongoing action





research that will help them become more effective. At the same time, experimentation across the sites with mechanisms and tools for participatory content creation continues. The embedded researchers are both feeding into and reporting and reflecting on these content creation processes.

Ethnographic Action Research (EAR) is a methodology developed specifically for ICT for development initiatives. An EAR handbook was first published in print form by UNESCO in 2003 (Tacchi et al 2003). Through the Finding a Voice project UNESCO has published a revised and expanded version in the form of a CD ROM (Tacchi et al. 2007) (See www.unesco.org/newdelhi).



Contents

1. Introduction: Methods and contexts	1
2. Placing ICTs in socio-political context	17
3. Digital Inclusion: Intermediaries and Voice	36
4. Finding a Voice: Emerging research themes and questions	47
References	52





Introduction: Methods and contexts

- 1.1 This paper presents preliminary findings from a multi-sited qualitative study of poverty and information and communication technologies (ICTs) in India, Indonesia Sri Lanka and Nepal. It draws upon data gathered by 12 ethnographic action researchers working across 15 community ICT initiatives. These local, 'embedded researchers' are part of a larger international project called Finding a Voice: Making Technological Change Socially Effective and Culturally Empowering, which includes UNESCO (South Asia) and UNDP (Indonesia), in partnership with Queensland University of Technology, the University of Adelaide and Australian Research Council, along with numerous local and regional organisations.
- 1.2 The idea behind this approach is that in working with a range of stakeholders such as partner organisations, local communities, ICT initiatives and community organisations these 'embedded researchers' collect data that help illuminate the breadth and depth of local poverty. In turn, such data help their particular media or ICT initiative address some of the locally relevant aspects of poverty. The initial research of the 12 researchers explored what it means in each place to be 'poor', who are understood locally to be 'poor', their specific characteristics, their lived realities and how ICTs can contribute to poverty alleviation. This paper details some of the key findings of the research to date and contextualises them into wider discourses around ICT for development.

1.3 Finding a Voice has another strand of activities that combine with the research - that is to explore and experiment with participatory local media and ICT content creation. A variety of content creation activities are being undertaken and researched across the broad range of ICT initiatives (which imply numerous platforms and genres) and a transferable set of principles and processes for participatory content creation is being developed (Tacchi and Watkins 2007). A principal aim of Finding a Voice is to investigate the most effective ways of articulating information and communication networks (both social and technological) to empower poor people to communicate their 'voices' within their communities and beyond (Nair et al. 2006). Further, the research aims to highlight opportunities and constraints to local content creation (content created by and for specific local community networks) for the development and communication of ideas, information and perspectives appropriate to those communities.

1.4 This paper has four sections. This first section introduces the study, how we approach poverty and issues of 'voice', the methodology and what the research aims to achieve. It also introduces the sites in which the researchers are working, along with some of their initial work on local poverty. The second section begins to explore some of our preliminary findings within a broad theme of political economy of communication, which incorporates notions of inclusion and exclusion. Political economy alerts us to the notion that criteria such as class, caste, gender, ethnicity and age affect the possibilities and potential of communicative practices in any and all socio-cultural context. Such an approach highlights the critical need to understand the contexts in which specific ICT for development activities occur. The qualitative methodology employed in the research stresses the need for generating detailed understandings of local conditions, possibilities and constraints, and we use the concept and tool of the communicative ecology to explore the complexity of local communication practices. The third section is about how to animate digital inclusion in local contexts through participatory content creation activities where embedded researchers work as intermediaries between the poor and local ICT initiatives. We explore some of the ways in which the methodology, ethnographic action research (EAR), is working to facilitate access and engagement, and discuss some of the issues this raises. In the final section, as is appropriate for a report on preliminary research findings, we outline key areas of ongoing



research focusing on the relative values of participatory community ICT development (both in terms of content and capacity building of initiatives); the role of community-based EAR researchers who act as critical intermediaries between ICT initiatives and the poor; and around issues associated with community 'ICT scale up', which illuminates the potential benefits of building 'embedded' research capacity within ICT for development initiatives.

Understanding Poverty

1.5 In this research we approach poverty and the realisation of Millennium Development Goals (MDGs) which frames the broader Finding a Voice project, from both rights-based and political economy perspectives. Rights-based approaches help us to recognise, strengthen and uphold the importance of basic human rights in processes of social development (Häusermann 1998). Fundamental rights to safety, security and shelter sit alongside a basket of rights that address the critical role of communication and expression (Article 19 1999). Freedom of both communication and expression are fundamental to the effective functioning of communities, community-based organisations, to consensual dialogue and community participation in the development process (Freire 1970; Rockefeller Foundation 2002; UNICEF/UNAIDS 2002). Implicit in notions of 'rights to communication and expression' is the concept of 'voice' which we define as indicating meaningful inclusion and participation within social, political and economic processes, meaning making, autonomy and expression (Narayan and Petesch 2002). Whilst right-based approaches help us to highlight 'what should be' in terms of the indivisible rights to which we should all have equal access and recourse to invoke, we also recognise that the ability to realise rights to things such as expression, communication or information may be fundamentally constrained in certain contexts and by certain criteria. The notion of social exclusion (de Haan 1998; de Haan and Maxwell 1998) alerts us to the fact that whilst supporting the realisation of rights, access to services, to shelter, to participation and to voice are not equally distributed within society. Notions of social exclusion draw upon mainstream political economy approaches in pushing our understanding of poverty beyond simple econometrics towards more subtle, complex and multi-faceted registers of poverty (Bracking 2003).

- 1.6 From such a perspective we can recognise that whilst 'voice' may be highly significant in terms of inclusion in community dialogue and in the upholding of a range of social, cultural, political and economic rights, 'voice' is not equally distributed within society (Lister 2004). An inability to influence decisions or wholesale exclusion from decision making processes remains an intrinsic feature of 'being poor' (Du Toit, Skuse and Cousins 2007). ICTs and their relevance to voice (and vice versa) can be related, both for individuals and groups, to a denial of access to modes of expression and more generally to the denial of freedom of expression; it can be the lack of opportunity and agency to promote self-expression and advocacy; the lack of access to technologies and platforms for distribution of a range of different voices; and it can be related to the lack of opportunities to participate in the design of ICT or communication for development interventions. Pathways to enhanced voice and digital inclusion are clearly revealed in the definition and examination of such problems.
- 1.7 Underpinning our approach is the notion that concepts such as voice (or lack thereof), participation, and poverty, if they are to have any meaningful currency, need to be understood in context (Tacchi 2007). Understandings and experiences of poverty may display a range of similar features across a wide array of locations, but each location will display its own very particular characteristics and nuances. Given our particular focus on ICTs and poverty we also need to understand differences in and between different groups and locations in terms of access and engagement with information and communication sources, content and channels. Methodology therefore becomes important, and so we employ methods designed to generate detailed contextualised examples.



Methodology: Ethnographic Action Research

- 1.8 Ethnographic action research (EAR) is a methodology that combines three research approaches: ethnography, participatory techniques and action research (see Tacchi et al. 2007; Hearn et al. 2008). Ethnography is a qualitative research approach that uses a range of methods and has traditionally been used to understand different cultures in detail over time. Participatory techniques are used to help both researchers and participants understand complex issues in an inclusive and participatory manner. Action research is a research approach that is used to

develop new knowledge and new activities through new understandings of situations. Ethnography and participatory techniques are used to guide the research process while action research is used to link the research back in to the initiative through the development and planning of new activities in ongoing cycles.

- 1.9 The twelve Finding a Voice researchers working in initiatives across South Asia and Indonesia have been provided with EAR training and are supported by an India-based Regional Research Coordinator, a Nepal-based Community Multi-media Coordinator and Australian-based researchers at Queensland University of Technology and the University of Adelaide. In strengthening the capacity of local ICT initiatives through research training, these initiatives become better-able to respond to the needs of the communities they seek to serve, for example, by working to understand why the poorest do not utilise ICT services and what can be done to overcome this problem. The EAR researchers have a critical role to play, not only in terms of research to improve the effectiveness of the initiatives, but also in animating or mobilising the community towards greater participation in ICT initiatives.
- 1.10 A key feature of EAR research is the embeddedness of the local researchers and ongoing nature of the research process. The idea is that EAR researchers work as a part of the media or ICT initiative, rather than apart from them. This serves to: (i) strengthen internal lesson learning within the media or ICT initiative concerning production practices; (ii) create a positive feedback loop between community and initiative and vice versa; and (iii) enables more subtle understandings of poverty to emerge and be fed-back into media content and program design over the longer-term. In the first phase of the research the understandings and perceptions of local researchers concerning poverty were significantly challenged as they sought to build a 'baseline' appreciation of the depth, breadth and diversity of poverty within their own research context.

Research Contexts: assessing poverty

- 1.11 The Finding a Voice project incorporates a range of media and ICT initiatives located across a wide diversity of socio-cultural contexts. While all of the initiatives have access to computers and an internet connection (some connections being more

reliable than others), the initiatives also represent a wide range of differing media and ICT technologies and communication approaches. This diversity is demonstrated in Table 1.

Table 1: Finding a Voice Research Contexts

Media/ICT Initiative	Location	Type of activity	Partner(s)	Approach
Kothmale Community Multimedia Centre	Central Province, Sri Lanka	Community Radio, Computer Centre, Mobile Telecentre (etuktuk)	Kothmale Internet Listeners Club	Radio, digital storytelling (DST), computers, Internet access, broadcasting and narrowcasting (pod casts, CD, DVD) focusing on health, agriculture and education
Hevalvaani Samudayik Radio and Mandaakini Ki Awaaz Samudayik Radio	Uttarakhand, India	Community Radio	Ideosync Media Combine	Radio by narrowcasting and satellite radio focusing on agriculture, health, promoting local talent, micro-finance and migration
Ankuram Television	West Godavari District, Andhra Pradesh, India	Community Cable Television and Wi-Fi Networks	Byrraju Foundation	Local cable television telecasting community-based programs on local agriculture issues, literacy, community health issues, drinking water, child labor, and local news
Gender Resource Centre	Delhi, India	ICT centre	Datamation Foundation	DST, Internet access, newsletters, media development course (computer course), vocational training, health and legal counselling

Media/ICT Initiative	Location	Type of activity	Partner(s)	Approach
Akshaya Centres	Kerala, India	ICT centres and web portal	Akshaya Project, Kerala State Information Technology Mission	Computer training centres, local information web portals, Internet access focusing on e-literacy and e-services
Agyauli Community Library	Nawalparasi, Nepal	Community Library	READ (Rural Education and Development Committee, District Education Offices (DEO) Equal Access Nepal Community Learning Centre Danda	Focus on community engagement, 3500 books, women's saving and credit group, training programmes, computer and internet courses, health service, literacy class, volunteer based, use and training in DST
Jhuwani Community Library	Chitwan, Nepal	Community Library	READ Nepal, Chitwan National Park, VDC Bachhauri, Chitwan, Nepal Family Planning Program, Equal Access, King Mahendra Trust for Nature Conservation & Asia Foundation	Focus on community engagement, 4000 books, women's saving and credit group, environment protection, computer course, income generating activities, health service, literacy class, volunteering and training of DST
Radio Lumbini Community Multimedia Centre (CMC) and Buddhanagar (satellite) Telecentre	Rupandehi, Nepal	Telecentre facility co-located with Community Radio Station and one Satellite facility	Lumbini Information and Communication Cooperative, MS Nepal, DANIDA, CRSC	FM radio, focus on local content and training in radio production, dedicated wireless, website, digital cameras, digital editing, 80 weekly radio programmes, free computer course

Media/CT Initiative	Location	Type of activity	Partner(s)	Approach
				for poor groups, volunteers, listener clubs and community reporters
Madhawiliya Community Learning Centre (CLC)	Rupandehi, Nepal	Community learning centre	Mashawiliya CLC	Focus on assisting internally displaced people, computer access and basic literacy course, income generating training
Tansen CMC	Palpa, Nepal	Telecentre collocated with community cable	Communication for Development Palpa, Asia Foundation, CECI	Cable TV with focus on local content, video and audio production, computers, internet, website, online local newspaper, digital editing, digital cameras, digital audio recorders, free computer course and internet access for poor and marginalised people, volunteer based
Madanpokhara CMC	Palpa Nepal	Telecentre co-located with community Radio	Madanpokhara VDC, Nepal Forum for Environmental journalists, DANIDA, Equal Access, Radio Sagamatha, Communication Corner, Antenna Foundation.	FM radio, focus on local content creation and community involvement. Computers, internet connection, digital cameras, software packages, listener clubs, local reporters.
Pabelan Telecentre	Pabelan, Magelang Central	Income generating	BKKBM, the community development body established	Establish a program called 'research by farmers', by which community groups of

Media/CT Initiative	Location	Type of activity	Partner(s)	Approach
			by Pondok Pabelan, a prestigious Islamic boarding school that houses the telecentre	local farmers undertook research into agro-fishery ventures of their choice to determine the local appropriateness of various strains and inputs. All of ten groups established now undertook the venture of their choice as income generating projects, fed with information from the internet via the infomobiliser
Lapulu Telecentre	Lapulu, Kendari, Southeast	Income generating	Badan Keswadayaan Keswadayaan Masyarakat (Body for Community self-sufficiency)	Establishing income generating projects among community groups and feeding with information from the internet, cooperating with locals in establishing a reading room
Muneng Telecentre	Muneng, Madiun,	Income	Madu Rasa farmers cooperative	Various income generating projects with a number of community groups. All income generating projects strive to make use of products that can be grown and produced locally. The telecentre then tries to find markets for these locally produced products

To give a little more of a nuanced impression of the diversity across the sites, boxes 1 and 2 give a little more information on just four of these initiatives – two community libraries in Nepal and two community radio initiatives in India. Profiles of all of the initiatives included in the Finding a Voice project are provided in the 'about' section of our website (www.findingavoice.org). Further information about and research findings from the Nepal sites can be found in Martin et al. (2007) and Tshering and Martin (2007).

Box 1 Agyauli Community Library and Jhuwani Community Library, Nepal

Agyauli Community Library (ACL) and Jhuwani Community Library (JCL) were established in 1999 and 2001 respectively with the support from Rural Education and Development (READ) Nepal. ACL is situated by the highway in Danda village which makes it more accessible compared to JCL that is located in Bachhauli village, a few kilometres from the main highway. READ Nepal has supported the libraries in the development of infrastructure (library building, furniture, computer and books). The libraries have 3500 to 4000 books. ACL has separate sections for children and women, runs a pre-nursery class free of cost in partnership with government, and has 14 women's group saving and credit groups. JCL has a mobile library facility especially for the community women and children, the women's section has facilitated 42 women's groups, based on saving and credit programmes, and it has a children's section well stocked with over 200 toys. The cooperative is now officially registered as Jhuwani Community Saving and Credit Co-operative Ltd.

Both the libraries run computer training. ACL has five computers, a printer, a television, a video and CDs, from May 2007 the library began providing news and information via a multimedia data casting system with the help of Equal Access Nepal. ACL has rented-out 10 commercial shops by the highway to the public. It also generates income from computer training and library membership fees. ACL does not yet have an internet connection.

On the other hand, JCL has 8 computers, internet access, a phone connection, a fax, a laminator, a printer and scanning services. JCL uses different CDs in weekly informational video programmes which are screened in the library. It also



provides news and information from Equal Access via the multimedia data casting system. In addition, JCL in coordination with Red Cross, hospitals, CRS Company and Nepal Family Planning Association has carried out health programmes including a free dental camp, family planning and reproductive health programmes, HIV and Tuberculosis awareness campaigns, and an eye camp, the library also offers immunization for the community. JCL has an ambulance that is helpful in emergencies and also bridging the remoteness of this region. Income is generated from the ambulance services, computer training, internet, fax, lamination, scanning services and library membership fees.

Box 2: Hevalvaani Samudayik Radio and Mandaakini Ki Awaaz Samudayik Radio, India

Havalvani Samudayik Radio is based in a small town – Chamba - and Mandakini Ki Awaaz is based in a remote village – Bhanaj - in the state of Uttarakhand in the foothills of the Himalayas, northern India. Ideosync Media Combine – with support from UNESCO, Equal Access and the FORD foundation – has been working with these two community radio initiatives by training them in radio production and helping them to build radio studios and develop community listening groups and multimedia centres.

Hevalvani Samudayik Radio is active in 15 villages; Mandakini Ki Awaaz is active in 7 villages and 2 schools. Each of these villages has a village volunteer (the two schools have two school volunteers) who are involved in identifying village-specific issues or problems and in community mobilization.

Each village has a Worldspace radio receiver for community listening. Community reporters, who receive a token stipend, make programs on the identified issues or problems and record them on a cassette in the radio studio (in Chamba or Bhanaj) and carry it to the village – mostly by foot and/or by public transport. This cassette is played on the radio receiver in the village, which is followed by discussions where the community reporters record feedback for follow-up programming.

Generic theme-based programs on issues related to health,

local governance, micro-finance and migration are broadcast in the same villages in partnership with Equal Access on Worldspace's Asia Development Channel. In addition, CDs are also provided to the local cable operators and the audio programs reach households with cable television connections.

Across these diverse sites each EAR researcher undertook some initial work to explore what poverty means within their local communities. The short-term aim was to begin a process of identifying the key dynamics of local poverty and constraints to access and participation in local media and ICT initiatives examined through the lenses of gender, age, ethnicity, socio-economic status, caste, class and so on. The longer-term aim is to ensure that a strong link between community needs (information, communication, health, well-being and so on) and the provision of media and ICT services and content is established.

- 1.12 From the initial research work of the Nepal-based EAR researchers we can present the poverty assessment findings in terms of a broad range of issues characteristic of poverty within the region. These include:
- a) Access - local community groups have limited access to information via new mediums of communication such as mobile phones and internet.
 - b) Gender Inequality - females are discriminated against in the local community in terms of access to education, health, personality development, citizenship, and their overall human rights.
 - c) Children - childhood poverty; child marriage; child labour; lack of education.
 - d) Unemployment - lack of income; unpredictability of (seasonal labour) income; unemployment and impact on family.
 - e) Health - Tharu (indigenous) community and their reliance on traditional remedies over modern medicines. Poverty and its impact on health and well-being. Sanitation; due to poor drinking water and other factors related to living conditions.
 - f) Caste - discrimination of lower-castes.



- g) Citizenship - poverty; illiteracy; education; impact on access to rights.
- h) Land - no land ownership leads to wage labour (availability, caste discrimination, gendered employment roles).
- l) Education - high rates of illiteracy; lack of infrastructure, gender inequality.
- j) Language - diversity of local language increase barriers to communicating and understanding content (which is presented in national language).

1.13 From the Indian contexts, we can see that each site has specific issues that constitute 'high priorities' for the local community. Taking Kannur District in Northern Kerala as example, which is the site of the research into the state-supported Akshaya ICT Centres, we can see that even in this economically and socially advanced state relative local poverty issues emerge:

- a) Income - no stable income due to lack of regular employment and no savings to fall back on during difficult times. Seasonal nature of work for many daily wage workers. Lack of income means the poor are unable to start any self employment ventures.
- b) Education - not being able to provide better education to children due to low income status.
- c) Landlessness - having no land to farm is seen as a key marker of poverty.
- d) Mobility - restricted freedoms due to purdah (sexual segregation in Islam) in Muslim fishing communities. Also geographical isolation of the poorest.
- e) Self-worth - Lack of self-confidence which is expressed in terms of creating barriers to institutions, such as banks or ICT centres etc.
- f) Infrastructure - lack of good roads, transport and electricity.

1.14 Whilst the value of such research findings are of primary importance to the media and ICT initiatives seeking to respond to the needs of the communities that they serve, the findings of this initial research process also raise a set of broader questions concerning the role of embedded researchers within such

initiatives. For example, to what extent do the researchers help to facilitate or animate community involvement in their media and ICT initiatives? To what extent does research inform the production of useful and useable community media and ICT content? To what extent does that content contribute towards enhanced livelihoods, rights, well-being for the poor? This paper addresses these (and other) questions in an exploratory nature and in so doing sets a more strident agenda for subsequent inquiry within the remainder of the Finding a Voice project.





Placing ICTs in Socio-political Context

- 2.1 Section 1 has flagged the broad range of issues related to poverty across the various field sites in which the Finding a Voice project works. Not all issues apply in equal measure in each site. Each has its own history and particular social, cultural, economic, political, linguistic, ethnic, religious (and so on) dynamics. Accordingly, it is important to move beyond the generic and general to generate fine-grained local understandings. Literature addressing the role of ICTs in development is shifting in response to such concerns. The commonsensical works that have addressed the 'potential' of new media and ICTs in a generic non-applied manner are giving way to a more practice-oriented body of work that seeks to highlight exactly 'how' access to and use of new media and ICTs can specifically contribute to social development and poverty alleviation (Batchelor and Scott 2005; Chapman, Slaymaker and Young 2003; Torero and Von Braun 2005).
- 2.2 Increasingly, there is a drive to locate the complexity of new media and ICT access and use within cultural and social frames. This is because such access and use inevitably articulates with existing communication processes, practices and interactions (Nair et al. 2006). Given such concerns there is now broad recognition that facilitating access to ICTs for the poorest is a far from straightforward task. In each local media or ICT initiative there is a need to understand what elements of 'access', use and

content creation are relevant to the poor. Further, there is a need to consider innovative ways to animate such locally meaningful access, use and content.

- 2.3 To date, digital divide debates have tended to focus almost exclusively on macro-level issues, assuming that new media are beneficial to all citizens and that the only barrier to closing the gap is a simple lack of physical access (Mansell 2002). Studies have shown such propositions to be overly simplistic and there is growing recognition that new media and ICT access and use are not equally distributed within society (see Skuse and Cousins 2007). Access and use is subject to a range of constraints that inevitably reflect local power dynamics, reflected in class, caste, ethnic and gender hierarchies. Notions of access then need to be broadened out to include factors such as awareness, engagement, motivations to use technologies, barriers to use, and more broadly issues of participation in local social networks, economies and decision making (politics/civics) (DiMaggio and Hargittai 2001; Katz and Rice 2002; Selwyn 2004; Warschauer 2003). Further, while new technologies can provide new and interesting ways for civic, political and community involvement, they may also widen existing poverty and information gaps 'further blocking access to those already without access' (Rice & Haythornthwaite 2006:93). More than this – exclusion from new media and ICT may be strategic, a result of the active agency of those who come to dominate technology access and use, i.e. the middle and upper classes (Haddon 2000). Given such concerns, understanding new media and ICT access and use in this broader framework requires close familiarity with socio-cultural context.
- 2.4 From this perspective we can see that there is merit in adopting a political economy approach to the issue of new media and ICT access for the poor. Such an approach seeks to locate both communication technologies and the communication processes that they help to facilitate within existing social, cultural, political and economic frames, frames that are critically reflective of social exclusion, inequality and intergenerational poverty (Bracking 2003; de Haan 1998; Garnham 1997, Mattelart 1996; UNAIDS 1999). For example, Mansell argues that there is clear neglect of political economy in research on new media that means that 'the overall social and economic dynamics of the production and the consumption of new media continue to be subjects of speculation' (2004: 96). Both UNAIDS (1999) and the



Rockefeller Foundation (2002) have developed important and influential communications for development frameworks that draw on a political economy approach. Moving beyond the psycho-social linear communication theories that have dominated communication interventions for so many decades (see Ojo 2004; Waisbord n.d.) both institutions identify how individuals are constrained in their decision making by the various local social, cultural, economic and political forces that determine the distribution of power, voice, opportunity and livelihoods. Box 3 below points to the extent to which gender frames aspects of information access and inequality in Seelampur, New Delhi, India.

Box 3: Gendered information inequality, Seelampur, New Delhi

Generally, girls are not sent to the school, they study in their homes using distance learning schools. Aseem the local EAR researcher interviewed a local woman who noted that: 'most of the girls are not sent outside for studies by their guardians and they feel isolated'. She added, 'I know many girls who are not confident and bold because of a lack of information and restriction on their mobility. Thank God I could boldly face such a challenge in my life and I'm now doing a job after completing a computer course from the ICT center at Jafrabad'. More than 65% of women, after dropping out of regular school, are doing some other courses through distance learning offered at very inexpensive rates by the government. Traditional Muslim restrictions on women's mobility, who are often not able go out of the house due to cultural reasons & anti social elements. These include: (i) anti-social elements including unemployed youth of the area who are uneducated & chauvinistic in nature, they make ghettos and pass comments on girls & women passing by (Eve teasing); (ii) there is pressure on the children to help their parents in their informal business or do any work of petty menial work simply to run the households.

(Field note by Aseem)

- 2.5 Accordingly, a 'political economy of communication' approach helps to reveal the complexity of communication processes, as well as some of the interconnections between things such as gender, mobility, class, caste, ethnicity and communication that may compound problems of access to and engagement with ICTs

(Slater and Tacchi 2004). In this section we aim to discuss examples of these kinds of complex communication processes and interconnections that are emerging from our current research. Through ethnographic action research (EAR) our local researchers have been exploring the critical and complex links between context, poverty and ICTs. At this local level, obstacles to more inclusive use and engagement can be identified and challenged. In seeking to identify and understand such obstacles the Finding a Voice researchers, in conjunction with the initiatives with which they work, aim to develop local strategies to overcome them. Comparing research data from across the 15 sites we see many examples of inequalities, aspects of exclusion and barriers to access and use. The reasons are multiple and often highly specific to locality. Given this, we cannot ignore political economy.



Box 4: Understanding poverty in Madhawiliya, Nepal

Deepak, an embedded researcher in Nepal, visited a nearby village called Madhawiliya. He thought it was a 'poor village' because the drinking water was unclean and there were regular food shortages. During his visit he noticed someone using a mobile phone. This confused him, because it didn't coincide with his initial notions of what poverty looked like in that village. He realised that he needed to rethink his initial perceptions of poverty and its relationship to information and communication technologies. For Deepak this meant trying to understand what being 'poor' means in this particular community at this time. To do this he had to learn about how local people living in the village communicate with one another, how they receive and distribute information and what communication channels are available to them. Building this understanding would allow Deepak to see how Radio Lumbini's CMC and the CLC he works for can enhance existing communication flows. In order to understand the potential impacts of individual ICTs in any specific place, you need to consider them within a broader understanding of the whole structure of communication and information in people's everyday lives.

Communicative ecologies

- 2.6 Within the Finding a Voice project one way in which we seek to address issues of political economy and communication is through correlating ongoing data collection and analysis with the

mapping of different ways that communication and technology intersect for individuals within different communities. We do this through the concept of communicative ecologies (Tacchi et al. 2003, 2007; Hearn et al. 2008). That is, not just press, broadcasting or telecommunications but also infrastructure such as roads, buses and trains that facilitate communication, as well as social communication practices such as visits to neighbours, gossip in public and private places where people meet to socialise. Communication is located within an environment in which arenas of economics, politics, education, ethnicity and language (to name only some) interpenetrate and impact to various degrees on access to ICTs.

Box 5: Communicative ecology with a gender perspective, Jhuwani Community Library, Nepal

In an effort to learn about how people communicate with one another Sita - the EAR researcher in Jhuwani - completed several communicative ecologies with local men and women. After analysing the data Sita identified significant differences between the communicative ecologies of males compared to females:

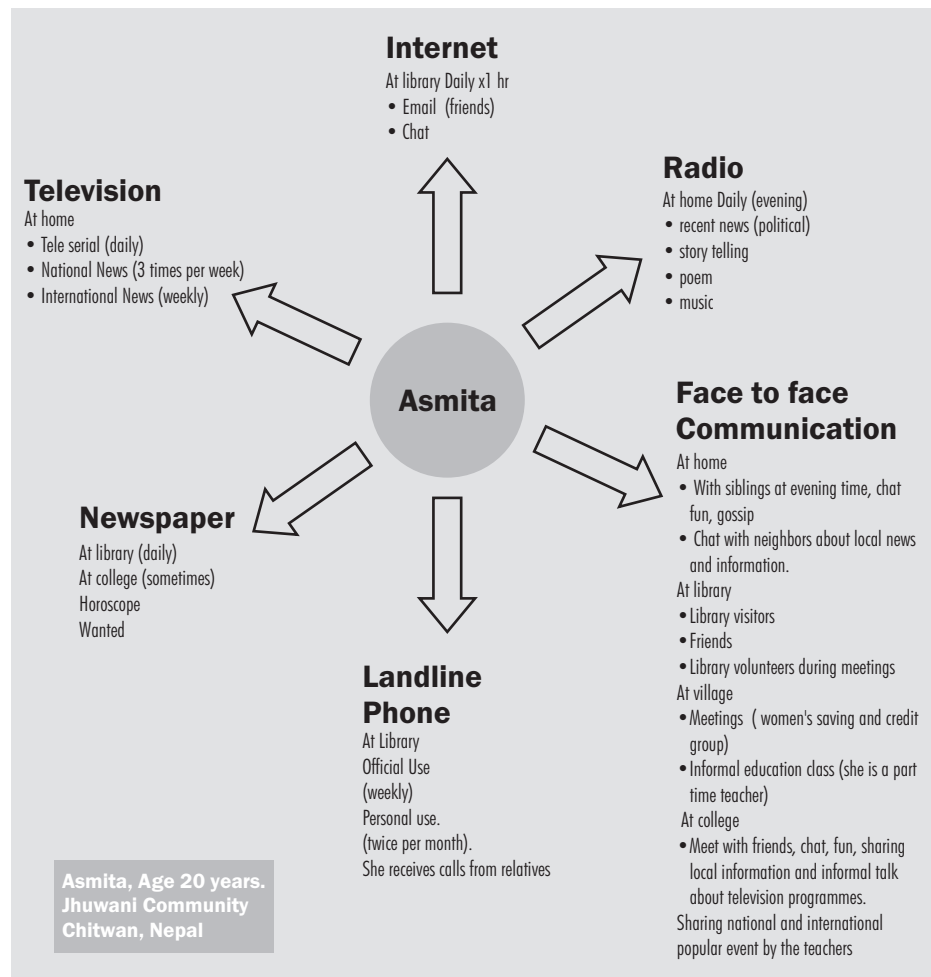
Access to new communicative media: When comparing male and female communicative ecologies I found that in general males have greater access to new media than females. New media used here refers to mobile phones, computers, the internet and fax facilities. My data shows that males are able to spend the family income on their new media choice. Whereas females lack access to the family income and therefore they cannot spend money on items which are outside of the necessities of food and clothes.

Duties: An individual's communicative ecology is linked to the type of job they have. If someone is educated or employed they automatically have access to new media. In our community men and women have different jobs. Males have largely outdoor responsibilities while females often work inside the home. Male (outdoor) work affords them various opportunities to be involved in different activities and to collect and share information and knowledge from different sources like newspapers. Men also have leisure time to watch television, listen to the radio or attend community meetings and gatherings. This is not the case for women who work

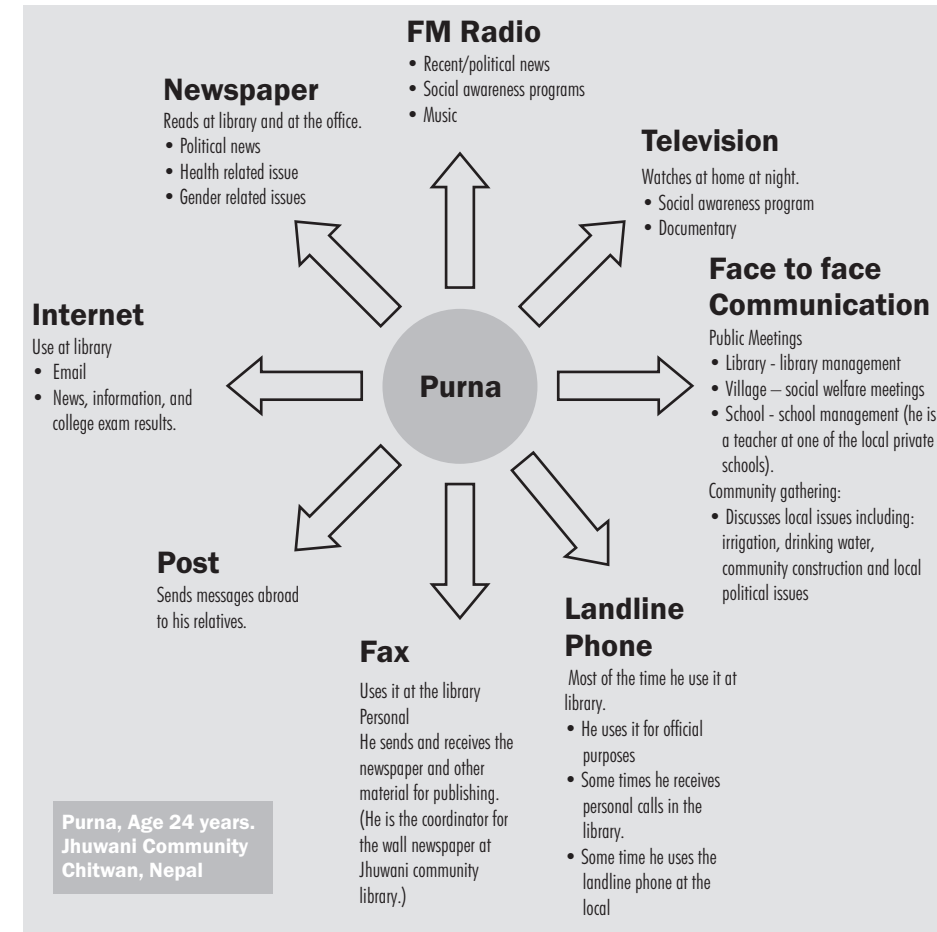
inside the home on domestic chores that usually last throughout the whole day.

Place for sharing: The communicative ecology maps show that males use different public places to share information with each other. While women may take part in one or two social/saving groups, males on the other hand are often invited to public meetings.

Female Communicative Ecology map Jhuwani Community Library



Male Communicative Ecology map Jhuwani Community Library



2.7 These examples of the communicative ecologies of a man and a woman in Jhuwani demonstrate how a focus on 'communicative ecologies' draws our attention to the fact that ICTs touch down upon terrains already thick with pre-existing patterns of communication and constraints; patterns that are unique to their political and economic contexts. At the same time, it is interesting to note that varied political and economic contexts bear some common features. In South Asia and Indonesia, many people have been quick to make use of new ICTs, and draw them

into their lives. However, our research (as well as other qualitative studies) shows that it is extremely common for poor people in these places to refer to certain technologies, particularly computers, the internet and email communications, as something that is somehow 'not for them' but for people fortunate enough to have formal jobs that require use of these technologies (see Skuse and Cousins 2008; Slater and Tacchi 2004). The reality of much resource/service access and use by poor households in poor communities is that it is in some ways different to that of better off people. For the poor it is more difficult, there are more barriers to overcome and there is often suspicion or discrimination to negotiate. While poor people's need to use ICTs may vary, their need to access information remains the same as, if not more acute, than those who are better off. Our research reveals that a lack of access to information about important resources and services is a common feature of poverty. Lack of information can increase poverty, and access to information may be far from equitable. The examples in Boxes 6 and 7 serve to reinforce and illustrate aspects of inclusion and exclusion for new media and ICTs and in turn broader political economies of communication.

Box 6: Exploring the link between a lack of information and poverty, Kertosari, Indonesia

The alleyway to the north of Ibu Jumilah's house is a place where poor people live. The women who live in this alleyway like to sit out the front of an evening and gossip. On the day I visited them, they were chatting about the high cost of electricity.

Ibu Jumilah complained of how high her last electricity bill had been - Rp 135,000. It was so high she hadn't been able to pay it. Ibu Jumilah explained that she and most of her friends are farm labourers and usually only earn around Rp240,000 a month. Sometimes they don't have enough to buy food to feed themselves. A number of other women came forward to complain of the same thing. Ibu Siti dan Ibu Mirat said their electricity bills had also been very high, and Mak Li told of how her daughter had to pay Rp600,000 just to rent the line for three months. They all wondered how their electricity bills could be so high, considering that all of them only used it to run a small television and low wattage lights.

None of them had fridges or washing machines or water pumps.

I asked to have a look at their electricity bills. Indeed, all of them were very high, and I saw that this was because the electricity company had connected them to high wattage lines, for which the rent was very high. All of the women were paying a lot every month to rent high wattage lines that they didn't need. But they all said they were never given any information about different kinds of lines and different rates of rent when they had their electricity connected. The women kept saying over and over again that they were people without possessions and when I asked them to explain what they meant, Ibu Jumilah said: 'as people without possessions we never have enough to get by, we are ignorant and don't know things.'

Field note by Suti'ah

Inclusion, exclusion and policy: connecting ICTs to the poor

2.8 There is a broad concern amongst international development agencies, national governments and NGOs to strengthen community-based participatory ICT initiatives. The term citizen media (Rodriguez 2001) usefully captures the notion of engagement with digital opportunities and digital inclusion, which sees local people engaging in a two way dialogue relevant to areas as diverse as community development and national politics. Most bilateral and multilateral organisations from UNESCO, UNDP, DFID, SIDA, CIDA, USAID and so on support community media and ICT sector growth and advocate for a plurality of voices and perspectives at the community level (DFID 2002; SIDA 2005). From a rights-based perspective on social development, rights to a voice and freedom of expression are closely linked to strengthening governance and the democratic process (DFID 2002). In turn, a focus on rights and voice forces us to consider micro-level aspects of 'information' or 'ICT' inclusion and exclusion as it relates to the poorest, but also macro-level aspects connected to the realisation of rights and to 'enabling' policy and legislative frameworks and initiatives. Certainly, making ICT services available to those considered voiceless is not enough on its own. Participation by the poorest groups is often highly problematic, as Box 7 describes.



Box 7: Problems in engaging marginalised populations in ICT initiatives, Akshaya, Kerala

The majority of the poor within the Kannur region or Kerala are from the tribal groups and their poverty is quite different from poverty within the general population. Among the tribes geographical isolation is one of the major causes of poverty. Since they are geographically isolated they have to pay a lot for travelling and because of this prefer to go by walking. Children also have to travel to school, but even if there is road transport often the families are so poor they cannot afford it. This is due to employment insecurity for tribal groups.

A hand to mouth existence characterises these groups and though the major occupation pursued by them includes rubber tapping works, quarry works, construction works, collection of cashew nuts on landlords' land, clearing the land after rainy season and collection of firewood for landlords, work is not guaranteed, especially during the rainy season. Given the geographical isolation and chronic poverty of these groups their ability to engage with ICT initiatives is severely hampered by their poverty and lack of mobility.

Field note by Jancy

- 2.9 There is recognition that policy environments impinge on ICT access and use in both positive and negative ways. Related to this is the broad goal of pro-poor ICT policy which seeks to address questions such as whether ICTs lead to greater social inclusion and equity or whether the introduction of ICTs exacerbate and widen existing social, economic and political divisions within poor communities. There is evidence to suggest that the poor pay more for their information and typically sufferer from a deficit in access to services (Gerster and Zimmermann 2003; Skuse and Cousins 2007). For example, field work undertaken in Andhra Pradesh for the Byrraju initiative, we found that those who were better positioned socially and economically had better access to the technology and were using Skype to connect to family members in the Gulf at no cost. However, in the villages and amongst poorer lower caste people we heard that communication between family members was mainly still via letters sent though the post. People in these lower caste villages were unaware of how the available technology might benefit their communications with geographically distant relatives. Across the



sites in India more broadly, researchers have identified the use of the 'missed call' facility of telecommunications suppliers by many poor people. Whilst making 'missed calls' is a widespread (some might say cultural) practice amongst all social and economic groups in India, for the poorest it may identify that despite having access to the technology many cannot afford to make calls or prefer to defer the costs to others who are more wealthy.

- 2.10 Such evidence points to the importance of national policy and regulatory frameworks for community media and telecommunications, as well as to regulation and deregulation of the wider media. Legislation frames ICT/media environments and much of the possibility for greater digital inclusion, ICTs for pro-poor growth and poverty reduction rests with the extent to which national governments are able to develop pro-poor regulatory frameworks and 'enabled environments'. For example, in Nepal activists are advocating for the national government to subsidise connectivity costs to the internet, as many ICT centres struggle to pay the associated costs. The extent to which policy may variously contribute to and exacerbate digital exclusion for the poorest is one of the most critical questions that a 'political economy of communication' can help to reveal. Further, the initiatives with which we are working are actively engaged in using content to advocate for policy/legislative reform, as the example below from Uttarakhand, India highlights in relation to the perceived benefits of community radio.

Box 8: Community narrowcasting in Uttarakhand

Rajendra Negi is a volunteer for the community radio initiative that operates in the mountainous region around Chamba, Uttarakhand. He made a short digital story in early 2006, called 'Our Voice, Our Community' about community radio. At that time India had not legislated for community radio. His story tells about how he and his colleagues practice what they call 'narrowcasting' – they create radio programmes on issues of interest to people in the area, place them on a cassette tape and then take a cassette player and play the programmes to gatherings of people in towns and villages in the area. Given the hilly terrain and the lack of roads to many of the villages, this can involve hours of walking. Rajendra had recently been on a trip to Nepal where community radio has burgeoned in recent years and was inspired on his return

home to do all he could to promote community radio broadcasting in India. His story tells us what community radio has meant to him, what it can do for the communities he works with, and how he has a dream that one day they will be able to broadcast community radio within his region. With shifts in legislation occurring that will see the development of a fully fledged community radio sector in India, Rajendra's organisation are busy applying for a licence.

Rajendra's digital story can be viewed at <http://blip.tv/file/249565>)

- 2.11 Whilst a great deal of attention is rightly paid to the structuring of 'enabling environments' that can and do encourage poor people's access to ICTs, we must also recognise that much of the creativity in contemporary ICT applications and content creation is actually driven by ICT policy and legislative environments that force technological innovation, as Box 8 demonstrates. For example, until recently the absence of community radio legislation in India has led to the emergence of innovative technological alternatives such as local cable radio networks or narrowcasting, which in turn results in the generation of alternative technological infrastructure, content genres and local creativity. In Sri Lanka, the e-tuktuk represents an innovative form of mobile radio and telecentre that travels to communities to encourage participation and local content creation, despite Sri Lanka's lack of community radio legislation (Tacchi and Grubb 2007; www.etuktuk.net). The Finding a Voice project, whilst seeking to identify and support important policy developments, is very much engaged in investigating such innovative applications of new media and ICTs as they relate to the problem of broader community media development and digital inclusion.
- 2.12 The EAR researchers are exploring how people access information and communication and are assessing connections with poverty. They are asking 'who are information poor' in their communities and investigating the related social and economic consequences of 'information poverty'. Despite the different geographical contexts of the work the main issues identified in each location so far demonstrate that issues of 'digital inclusion' and 'exclusion' are - to varying degrees - common. Further, there is an emerging evidence base for the varied socio-economic 'benefits' that ICTs can bring to poor communities and

households (Global Knowledge Partnership 2003). The shift from recognising a broad need for digital inclusion to questioning and identifying the 'actual' benefit in socio-economic terms of access to and use of ICTs poses a simple question: Do ICTs lead to pro-poor growth? Indeed, in Indonesia ICTs have been used successfully as an information resource and research shows that in some cases they feed income generation, as the example in Box 9 below illustrates.

Box 9: The story of Mr. Sukad - Less Cost, Better Harvest

Mr. Sukad is a melon farmer in Muneng village. He found out about Telecentre from some of the telecentre staff, when they came to talk with him and fellow farmers about how the telecentre might help them. Intrigued, he paid a visit to the telecentre and learned how to browse for information from the internet. With the help of one of the telecentre staff, found some information about cultivation techniques for melons - different techniques to those he had been using. From the internet, he also learned about the proper way to use different kinds of pesticide. "I did not know that these kinds of things really mattered. I have taken it for granted all this time. It is fascinating to me that all this information is actually available. For so long I just simply do not know how to get it" Mr. Sukad applied his new knowledge on his melon farm. When he visited telecentre for the first time, he had already ploughed a half of his land with the old cultivation technique. So, he applied these techniques to the remaining half. After 37 days, the difference between the two sections became apparent. The section that he had treated with the new techniques produced different results. "I tried to share this new knowledge to other farmers. But they did not believe it. It is a custom here that people want to see first the results of the changes before giving it a try. Now that I have proven that this new technique is actually working, they all want to try as well." Now, Pak Sukad produces a better quality of melon. It is bigger and sweeter. In addition, to that he can also reduce production cost as he can better manage the quantity of water needed. Mr. Sukad said that he now can earn more income. (From our partner PePP website: www.ict4pr.co.id)

- 2.13 These kinds of direct income generating uses of ICTs are clearly important, but there are some basic barriers related to access

that need to be addressed. For example, women in Tansen, Nepal are often busy with their domestic responsibilities and it is not always easy for them to take part in courses that are run outside of the home, such as e-literacy courses. The box below describes the complexities of offering ICT training to local household women. It highlights the interesting intersection between gender, local communities, ICTs and the role the community multi-media centres (CMCs) plays in bridging these.



Box 10: Women and ICT training in Tansen, Nepal

This is an extract from the field notes of Utpal, an EAR researcher who was based at the Tansen CMC from 2003-2005:

I visited a local housewife whose husband had recently opened a communication centre. I told her if she learned to use the computer she could help her husband with his business. The family appeared conservative to me because the woman said that she always has to ask her elders for permission if she wants to leave the home.

After hearing my idea, her husband agreed to send his housewife to the CMC to take part in the computer training course. When I did not get a response from the woman, I returned to the house and this time she told me she had a small son who she has to care for. Her husband said that he would look after the baby but she didn't believe him because he is often away from home for work. So she told me not to enrol her in the computer course this time.

This woman's first responsibility is to the home and her childcare duties. It is not easy for her to agree to take part in the training course as it will take her away from these responsibilities, even though she might have her husband's support.

Field note by **Utpal**

- 2.14 Our research in India suggests that the diffusion of ICTs and the stimulus to growth and economic development that they promise may actually be of marginal direct economic benefit to the poorest households. Rather, the poor may benefit from ICTs in areas that reveal the interconnecting dimensions of deprivation (see Box 11 below). For example better access to information concerning routine health problems might well lead to health dividends that increase productive capacity and therefore economic potential.

Box 11: Example of Information and interconnecting dimensions of poverty (sanitation and disease/community tension) in Seelampur

Seelampur is situated in the trans-Jamuna area at Delhi and there are many small hamlets within the area. The Seelampur area is well known for its many problems, like poverty, slums, anti-social elements, alcoholism, gender problems, child labour and polygamy. People in this area do not work outside, they do not have the contacts or confidence to do so; they either own businesses inside their homes or work for others in the area. Often they are poorly educated and do not speak Hindi well. Migrants from Bihar, Bengal and Uttar Pradesh are moving into overcrowded conditions within this area. They work here as labourers and if they bring their families then their small children also work as helpers in tea stores or other small businesses, though they are poorly paid.

Migrant children rarely go to schools for regular studies. Early marriages are common here, with girls not completing their education. This leads to weak health status amongst women. Women suffer from many problems due to early childbirth, with anaemia and backache being common. Diseases related to overcrowding such as TB are also very common. Poverty in the area leads to many problems, such as larger family sizes, as women are not well educated about spacing their children and they desire to have a male child. Domestic violence prevails due to the repressive nature of poverty and lack of opportunities outside of the area, which further leads to depression. Diseases and health problems are also common due to the overcrowded nature of the area pollution. Solid waste is disposed of in the streets making drains fill with debris from domestic, industrial and animal waste. Whilst waste disposal is creating many health hazards Datamation is actively seeking to address the problems poverty presents by addressing it through various communication means, via access to the ICT centre, through newspapers, and through the making of digital stories.

- 2.15 Our research in Indonesia is revealing of how the role of ICT initiatives in the democratic process is much more complicated than the literature foresees. Many of the Indonesian initiatives with which we work are viewed by local power holders and those vying for power as a valuable political resource that can be

mobilised during times of political conflict or contestation. Local-level elections, part of the country's newly-established democratic system, exemplify such contestations. Indeed, democracy is an ideal that initiative staff strive to promote. In practice though as Box 12 suggests, they must take time to carefully navigate this new system to prevent it from undermining their initiatives' basic goals of empowerment of the poor.

Box 12: Kertosari elections and their impact on the telecentre

The wife of the former village head was a candidate for village head in the recent local elections. Her candidacy was actively supported by a number of members of the telecenter management team, and her opponent was a technician at the telecenter. Sometime after she was defeated, we in the management team started talking informally amongst ourselves about the telecenter program for 2007. Some of the members said they were planning to leave the telecenter. In my opinion, the telecenter should be independent, and the success or defeat of a candidate for village head should have no bearing on who works at the telecenter. The only thing that should matter is whether people are able to do their job at the telecenter in a professional way. If people want to leave, we need to talk about it as a team. The telecenter has mechanisms in place for this. I can understand some of the people on our team are still upset because their candidate lost the election. But the running of the telecenter and the services we provide to the community must not be subjected to election results.

Field note by Suti'ah

- 2.16 There is often a neo-liberal logic applied to ICTs in terms of technology flowing freely to users and facilitating access to 'useful and useable' information that is somehow empowering in a politico-economic sense. Though only preliminary, our emerging research shows that whilst there are 'success stories' that can be highlighted, the poor still tend to 'lack political visibility and voice in the institutions and power relations that shape their lives' (Marker et al. 2002). Whilst access to and use of ICTs are perceived as a potential panacea to this problem SDC/PANOS (2005) suggest that one of the principal values of ICTs, and one that the Finding a Voice project focuses upon, is their potential to empower the poor by giving them a voice in decision making.

Whilst voice, like access to ICTs, is framed by political economic realities, the term 'voice' usefully captures some of the practical expressions of the related term 'participation'. Yet, 'realising a voice' and 'getting it heard' remains fundamentally difficult in societies where some kinds of technology (such as computers and the Internet) are often socially constructed as the domain of the burgeoning middle-classes. Our multi-sited research seeks to explore the relationship between voice, decision-making power and aspects of individual and group 'empowerment'. In exploring this relationship important questions are inevitably raised that we begin to address in the next section. For example, what are the ways and means through which 'poor' or marginalised people can have their voices heard in local or national contexts using ICTs? How can better access be mediated in community ICT and new media initiatives?





Digital Inclusion : Intermediaries and Voice

- 3.1 Digital inclusion refers to more than physical access to digital technologies. It relates to the relationship between ICTs, agency and context, therein raising issues of access versus effective use or engagement. Digital inclusion is increasingly measured, not by computer or internet access, but by technological fluency and multimedia content creation – 'multimedia literacy' is especially important because of the ways in which the 'social practices of text literacy' have marginalised groups 'whose traditional methods of learning focus on shared storytelling using audiovisual elements such as song, chanting and dance' (Warschauer, 2003: 115-116). It is important to re-examine our ideas about 'computer literacy' in this context: terms like 'creative ICT literacy' are necessary to describe the ability to create and manipulate multimedia content in ways that serve vernacular interests and enable relatively autonomous cultural participation.
- 3.2 Given such concerns, this section seeks to: (i) further problematise notions of access and use by looking at the role that EAR researchers play as 'intermediaries' between community and initiatives; and (ii) the related role of voice as an expression of meaningful technology access. It is our contention that a focus on intermediaries is useful as it helps to locate workers such as EAR researchers as the critical interface between community and development initiative. Examining the 'human' as well as the 'technological' aspects of ICT initiatives forces a focus on initiative workers as well as on potential users. In this respect,

James (2004) has examined community radio in Kothmale, Sri Lanka and the use of radio as an intermediary via which the community access the internet. The human element in this facilitation is as important as the technology. Kothmale pioneered the 'Radio Browsing' format which is now used in many other places, and with other technologies so that Tansen CMC have started a 'TV Browsing' programme.

- 3.3 Further, active research into the intricacies of local peoples' various ways of communicating and getting information, as well as their perceptions of and roles in the initiative, facilitates both upward and downward flows that actively link the micro, meso and macro levels. Expanding on the role of intermediaries, the related notion of the 'interface' is well-established in broader development theory and practice (Long 1989; Long and Long 1992) and implies the role of participatory and ethnographic methodologies and the need for the human 'facilitation' of ICT initiatives. Such a perspective is reflected in the recent WSIS proclamations that call for a 'people-centred information society' which in turn stresses a focus on participation, capabilities, voice, empowerment, and the poor utilising ICTs to address self-defined problems (cf. SDC/PANOS 2005). It is the contention of this paper then, that whilst the provision of technology is fundamental to access, a focus on strengthening the interfaces that exist between the poor and ICT initiatives may yield more meaningful use, such as content creation, self efficacy and problem solving related to development or livelihood needs. Our research seeks to explore the real and potential role people such as EAR researcher play, as well as addressing some of the critical challenges they face in their work.
- 3.4 Despite the difficulties that the poorest face in accessing and using ICTs the work of SDC/PANOS (2005) highlights some positive evidence emerging from a range of community-based ICT initiatives within Asia. They suggest that ICT inclusion for the poor stands its best chance when initiatives are integrated with participatory approaches, community structures, local creativity and culture. Whilst such commentary points to the many important lessons learned from the rapid expansion of community media within the developing world, and in particular from community radio, there is a need to push beyond current community media models which are heavily dominated by community radio to examine innovative and alternative

community media (Dagron 2001). The Finding a Voice project focuses much of its research efforts on trying to understand emergent community media alternatives, including new content genres such as digital stories developed using digital cameras and video editing software. These new and innovative community media tend to place a greater emphasis on facilitation as barriers to access and use (multi-media literacy) are potentially higher than the associated barriers to access and use associated with media such as community radio.

- 3.5 Inherent in this discussion of community involvement and participatory methods is the way that EAR researchers work within the communities and initiatives in which they are based. This means that they are involved in negotiating various people's interests in the way the centre runs including management, staff and volunteers. At the same time they are mindful of the way the centre is viewed and understood by the 'users' or the community members in general. The EAR researchers are, in essence, in a continual dialogue between the ICT initiative and community. They are able to draw community members in to the initiative that otherwise might not use the service, are able to feed ideas about appropriate content creation and take content to community members who do not use the initiative.
- 3.6 Nonetheless, those (like EAR researchers) placed at such interfaces may experience initial problems associated with the social, economic and political distance evident between them and the community members with which they work (Fairhead and Leach 1996). Within development practice, overcoming such distance has very much been the goal of participatory methodologies and approaches, with long-term ethnographic work having similar and complimentary goals. Developing an approach in which researchers or community development workers are embedded in the community helps to reduce social distance (Jallov 2005; Cecchini and Scott 2003). With regard to content creation SDC/PANOS suggest that 'it is vital that local content is developed, based on the needs and socio-cultural particularities of each target group ... Direct participation of the target groups in developing local content is also necessary to ensure local ownership and effective use of content' (2005: 17). They take this further stating that the 'importance of developing local content and building capacities of local stakeholders to develop local content cannot be over emphasised' (2005: 19).



Again, the extent to which such capacity may be built or stakeholders included is very much dependent on the quality of community facilitation undertaken by local intermediaries.

- 3.7 For example, the researchers who are sensitive to ethnographic approaches (which entail careful listening and observation) listen to the detail of people's lives and encourage them to tell stories about their everyday concerns and issues. These stories are evocative of local meanings and experiences, of which the excerpt below is a prime example. The excerpt provides a fascinating inroad to investigating issues of gender in Lapulu, Indonesia – it begins to show how some women mobilise religion in their representations of other women, and begs the researcher to seek the perspectives of the women derided. Unlike technically-oriented organising and research, simply listening to local stories can provide researchers with an understanding of the heterogeneity of the communities in which they work. Further, by writing field notes, researchers can begin to understand and represent local people in productive ways – ways that can facilitate locals' fun and pleasurable use of ICTs for self representation, that is, for 'developing local content'.

Box 13: The role of ethnographic research in developing local content

Attending a Qu'oran recital: The Tal'im committee is a committee of women that convenes meetings for its members to recite the Qu'oran. I attended one of these meetings, to observe what goes on and listen to what the women talk about there. The Tal'im committee and the telecentre in Lapulu would like to work together more closely. After the yasinan activities, the women sat around talking about the direction of their group and where the next meeting would be held. Ibu Ajitah asked for the next meeting to be held in community no. 2, at Ibu Sira's house. She went on to give her reasons for wanting the next meeting to be held at community no. 2. Ibu Atijah was concerned and worried that the women of that area tend to gather and gossip and that this has a negative effect on community life. Recently, even, there had been some violence in that community because one of the women was selling alcohol on the sly. This used to be a problem about a year ago, but the problem stopped and has only now begun again. Indeed, people used to get drunk and fight a lot in this community. They would gamble and

some of the women even took part in the gambling. But then there were some police raids and some people, including some women, were arrested. But since then there has been no gambling and drinking in No. 2 community. Until now, Ibu Ina suggested that the women in question be reported to the police. But Ibu Atijah did not agree. She said that holding the Qu'oran recital in no. 2 community the women could provide the women there with something to do with their spare time, so that they did not fill it with negative activities.

Field note by **Alam**

- 3.8 This implies the need to work with communities to both identify their key information needs and generate participatory content that resonates to and fulfils their needs. For the poorest, facilitated access to ICTs and to content creation opportunities may provide an alternative mechanism for overcoming the barriers to ICT access and use. Alternatively, extending ICTs to poor communities through things such as handheld devices, to provide information, a range of technology-mediated services and tap into local information needs and content creativity is being trailed, for example handheld PCs (iPAQs) have been used in Seelampur, India to take information modules relevant to local people's livelihoods to the poorest of the region. This process, again, is reliant upon information workers placed at the interface between poor communities and ICT initiatives.

Box 14: The story of Ayesha and the iPAQs, Seelampur, India

Ayesha is one among the active members of a local self-help group (SHG). In Seelampur, Datamation were interested in extending access to ICTs, especially for those unable to visit their ICT centre, through the use of iPAQs. Ayesha was immediately attracted towards the IPAQS soon after she got to learn about how to use one. The IPAQ has influenced considerably and she has taken one to her home and started learning Word, Excel, and Notepad. She is active telling others that they should 'learn the IPAQS' as 'they impart knowledge and they are very interesting'. Her father sold handicraft items and after his death her family underwent a number of familiar strains. She tried to earn money for the family and learnt about producing goods like her father and was skilful enough to produce them, but she was unable to find a market for them. So she went to Mr. Aizaz at the ICT centre and

asked for help about buyers. Mr. Aizaz gave her the address of some middlemen after searching in Google and taking those addresses she went to sell those goods. Now she is selling her products there and has started leading a comfortable life. Her feelings towards technology have changed because of the ICT centre and now the iPAQs are helping to create a better environment for work.

Field note by **Aseem**

- 3.9 In a recent review of UNESCO's Community Multimedia Centre (CMC) programme Creech notes that one of the key assets of the CMC approach, with their 'bottom-up' origins, enables 'mediators – radio programme staff and development workers – to take Internet beyond personal and social use, and apply the information found therein to solving local development challenges' (2005: 28), as the example above highlights. This implies recognition of the need to link new technologies with 'first mile' technologies, but also the value inherent in community media initiatives that respond to community issues. Whilst community media are not without their problems, the principal of media content generated for the community by the community is one that is universally endorsed as a critical goal of civil society strengthening. The role of facilitators and social animators, in this case the EAR researchers, affords a critical opportunity to better include the poor in such a process. Given this, a focus on the role of intermediaries placed at the critical interface between the poor and ICT initiatives warrants further exploration, not only in the context of the Finding a Voice project, but in the ICT sector more broadly.

Voice and poverty reduction

- 3.10 'Voice' is typically understood as the meaningful expression of ICT access and use, i.e. a community member has created content that finds an audience. However, voice, like access and use, is subject to political-economic criteria that affects whether that voice has any wider impact, beyond the significant impact of the self-empowerment of the poor people accessing and using ICTs. During a multimedia content creation workshop in Nepal, the group (which included EAR Researchers and content creators from the Nepal sites) talked about the idea of turning research into content and in particular whether, and indeed how, poor people's issues can ever be 'heard'. What followed was an

interesting conversation about how 'poverty' issues are not always deemed interesting for the audience. How are these voices actually heard and by whom? How do we deal with the reality that not everyone will be interested to 'hear' the voices of the poor?

- 3.11 One example concerns the issue of participation, empowerment and decision making power of women members of the Jhuwani Community Library, Nepal. Sita, the local EAR researcher learned that even though women were members of the library their 'decision making power' was not strong and in essence they lacked any kind of voice in terms of the decisions that affected the library. Rather, it was the men who made the choices that govern the local community library. This highlights the fact that voice is bound up within traditional hierarchies, such as caste, class, gender and age, and that ICT initiatives and the multimedia content that is produced or facilitated through them must work through such hierarchies if 'voices' are to be heard.



Box 15: Poverty and Voice, West Godavari, Andhra Pradesh

In West Godavari high caste women are not allowed to come out from the homes. They won't speak in front of males. There is no particular reason or imposition on them, they are following the tradition. These women can have higher education, but still they won't go for higher studies. One reason is there are no colleges nearby. Another reason is that men will decide whether their daughters continue their education or not. These women are really voiceless, as women are respected in these families. But there are few women who come to our Ashwini centres to learn embroidery works and computers (not more than 4-5). Many such high caste women have access to ICTs at home. Unlike them, lower caste women work together with males, most of them are daily wage coolies. But their paid wage is less than men. Unlike higher caste women these women are given a chance to participate in politics but they won't speak in the meetings. They won't raise their voice about their problems in the meetings. Power is under control of their spouses and forward caste people. Many lower caste women are unaware of computers and technologies. They don't know how to utilize the information.

Field note by **Srivas**

- 3.12 The extent to which multimedia content development leads to meaningful voice and therein to tangible developmental benefits is very much the forward research challenge of the Finding a Voice project. Ensuring that our understanding of content creation remains embedded in context, culture and political economy is critical to generating a more nuanced understanding of ICT and poverty, one that moves beyond anecdotes to a stronger ethnographic evidence base. However, we do know that the poverty alleviation potential of new ICTs is significantly increased when combined with 'first mile' technologies, i.e. combinations of radio and Internet have been particularly successful (cf. James 2004; Girard 2003). Further, there is significant evidence of the importance of telecommunications to poor people, for remittances, social networking, managing distance and remoteness (Horwitz 2001; Horst and Miller 2006; Skuse and Cousins 2007; UNDP 2001). Since both radio and telecommunications do not rely on functional literacy this increases their relevance to the poor and to processes connected to poverty alleviation. In the context of the poor and chronically poor, new ICT-based livelihoods often remain out of their reach, i.e. phone vendors tend to be from the already affluent middle-classes, though evidence from India highlights successful phone booth operations run by disabled people who are typically the poorest of the poor. Further, the purported uses of ICT-mediated services, for things such as market prices or weather forecasts is not supported by robust evidence (see Creech 2005: 29). This leaves a clear gap in knowledge that needs to be filled. What, for example, are the social and developmental benefits of engaging in new media content creation for the poor? A sense of empowerment? A voice to challenge existing power hierarchies and inequalities? These and other critical questions are currently being addressed in the Finding a Voice project.

- 3.13 What is clear is that the evidence base relating to ICT interventions and their poverty reduction potential needs to be strengthened. From this perspective the role that is played by locally situated researchers/animators can be viewed as critical both to the early phase of 'evidence gathering' in which community needs are matched to service provision, in promoting social and cultural sustainability and in generating evidence of developmental impacts resulting from ICT access, use and content creation. Greenberg notes that 'there has been little

readily discernable, hard evidence that the use of ICTs could be a significant contributor to poverty alleviation. Over the past year SIDA, along with most donor and development agencies, has recognised that the time has come to better assess the connection (or lack of one) between the use of ICT and success in poverty alleviation activities' (2005: 13).

- 3.14 Part of the problem associated with the lack of evidence base for ICT-related poverty reduction is the tendency for organisations to focus on technology and infrastructure over communication and human resources, i.e. technical rather than human, information rather than voice, potential rather than proof, connectivity rather than content (Feek 2003). Criticisms of the use of new ICTs as a kind of 'technological fadism' belie the fact that new initiatives and combinations of ICTs need to be field-tested against robust hypotheses connected to poverty alleviation. The role of participatory and ethnographic research and of researchers/animators located at the critical interface between ICT initiatives and the poor, from such a perspective, seems essentially relevant to: (i) 'first mile of connectivity debates; (ii) integrating an evidence based approach to initiatives; (iii) identifying how initiatives can support processes relevant to poverty reduction; (iv) promoting social and cultural sustainability; (v) promoting a culture of volunteerism and participation; and (vi) the development of relevant local content creation.





Finding a voice Emerging research themes & questions

- 4.1 The aim of this paper has been two-fold. First, to introduce some of the main concepts, methodological and theoretical underpinnings of the Finding a Voice project as they relate to the ICT initiatives being investigated. Second, this paper has afforded an opportunity to highlight some of the initial ethnographic data emerging from the field sites (albeit incomplete) and to generate a further set of questions and research themes to be addressed in subsequent publications.
- 4.2 A number of important principles, relevant to generating a rigorous evidence base relating to ICT initiatives and poverty reduction, have been discussed. These include the methodological imperative to engage with communities and in doing so to use participatory and ethnographic methods. This in turn affords an understanding of the complex communicative ecologies in which poor people are enmeshed and highlights the extent to which context, culture and political economy frame communication choices, information flows and access. The contention of the Finding a Voice project is that grounded longer term research methodologies, such as EAR, are critical to understanding the potential for poverty reduction and actuality of it in the context of diverse ICT initiatives. Without an adequate understanding of the poor, their concerns and constraints, it is our assertion that only a partial, anecdotal or over-optimistic understanding of the potential benefits of ICT to the poor can emerge.

- 4.3 A critical entry point for research relates to the researchers/facilitators working within the communities in which these ICT initiatives are located. Embedded researchers or animators, due to their proximity to poor communities, over time, come to understand issues affecting access, use and content creation. In turn, this allows their initiatives an opportunity to think of the action it can take to address such issues in a way that is of positive benefit to the poor. Given this, the role of the researcher/animator can be seen as one of increasing importance for the poor, but also for academic inquiry in its own right. The extent to which such 'information workers' act as a bridge between ICTs and the poorest adds an interesting human interface to otherwise technologically dominated debates concerning ICTs and the poor.
- 4.4 Research on local content creation tells us that 'the local' is and needs to be the prime target in terms of audience – some content can move further, but to make local content locally relevant, it needs to be locally specific in a way that means its use elsewhere is limited. This in turn points to a need to better understand how local audiences understand and interpret local content, as well as the risks and dynamics associated with local people voicing local concerns. Voice and the role of content creation is an area that requires a deeper level of inquiry if we are to truly understand the implications of access and using new technologies and through it, giving voice to areas of direct concern to the poor. If a poor man or woman is afforded the opportunity to make a piece of content what are the tangible and intangible benefits connected to that process? Voice, like communication more broadly, can only be understood in context and when discussing the potential of new media to liberate and empower, we must critically reflect on the relative abilities of different individuals and social groups to actually get their voices heard. Nonetheless, locating voice within these kinds of broader political-economic frames seems fundamental to providing meaningful insight into the term and its analytical potential.
- 4.5 Finally, we need to question the macro-level implications of these micro-level ICT initiatives. If such small scale initiatives prove to be successful in reaching the poor and are sustainable in their operations what can we learn from them that is of use to ICT up-scaling strategies and nationwide initiatives? SDC/PANOS notes that many ICT 'up-scaling strategies ... often neglect to



incorporate the creativity, local connections and community structures of support and participation that the bottom-up approaches and community-based initiatives' tend to draw upon (2005: 12). One of the strengths of UNESCO's Community Multimedia Centre (CMC) initiative, from which many of the case studies in Finding a Voice have been drawn, is that it tends to build on existing community initiatives that already have: (i) a degree of social sustainability; and (ii) developed and defined locally appropriate combinations of technology and content genres. Intrinsic to the CMC approach has been the ongoing use of locally situated researchers/animators using ethnographic action research. The pros and cons of various models of localisation as they relate to sustainability, poverty reduction and content creation need to be further explored and discussed. 5.

8



References

ARTICLE 19. (1999) *The Public's Right to know: Principles on Freedom of Information Legislation*. International Standards Series. London: ARTICLE 19.

Batchelor, S. and Scott, N. (2005) Good Practice Paper on ICTs for Economic Growth and Poverty Reduction. *The DAC Journal*, Vol. 6 (3), OECD, Paris.

Bracking, S. (2003) *The Political Economy of Chronic Poverty*. Working Paper 23. IDPM/Chronic Poverty Research Centre, University of Manchester.

Cecchini, S and Scott, C. (2003). Can information and communications technology applications contribute to poverty reduction? Lessons from rural India. *Information Technology for Development* 10 73-84.

Chapman, R., Slaymaker, T., and Young, J. (2003) *Livelihoods Approaches to Information and Communication in Support of Rural Poverty Elimination and Food Security*. Rome and London: FAO/DFID.

Creech, H. (2005) *Evaluation of UNESCO's Community Multimedia Centres*. Paris: UNESCO.

Dagron, A. (2001) *Making Waves: Stories of Participatory Communication for Social Change*. New York: Rockefeller Foundation.

De Haan, A. (1998) 'Social Exclusion - an alternative concept for the study of deprivation?' *IDS Bulletin*, 29(1), pp.10-19.

De Haan, A. and S. Maxwell. (1998) 'Poverty and Social Exclusion in North and South'. *IDS Bulletin*, 29(1), pp. 1-9.

DiMaggio, P. and Hargittai, E. (2001) 'From the 'digital divide' to 'digital inequality': Studying Internet use as penetration increases'. Princeton University Center for Arts and Cultural Policy Studies, Working Paper Series number 15.

Du Toit, A., Skuse, A., and Cousins, T. (2007) 'The Political Economy of Social Capital: Chronic Poverty, Remoteness and Gender in the Rural Eastern Cape'. *Social Identities*, Vol. 13 (4).

Fairhead, J. and Leach, M. (1996) *Misreading the African Landscape*. Cambridge: Cambridge University Press.

Feek, W. (2003). *The digital pulse: the current and future applications*

of information and communication technologies for developmental health priorities. *The Communication Initiative*.

Freire, P. (1970) *Pedagogy of the oppressed*. New York: Herder and Herder.

Garnham, N. (1997) *Political Economy and the Practice of Cultural Studies*, in M. Ferguson and P. Golding (Eds.) *Cultural Studies in Question*. London: Sage.

Gerster, R. and Zimmermann, S. (2003) *Information and Communication technologies (ICTs) and Poverty reduction in Sub-Saharan Africa: a Learning Study Synthesis*, Gerster Consulting, Switzerland.

Girard, B. (Ed.) (2003). *The One to Watch: Radio, New ICTs and Interactivity*. Rome: FAO.

Global Knowledge Partnership (2003) *Youth, Poverty, Gender: ICT for Development Success Stories*. Kuala Lumpur: GKP.

Greenberg, A. (2005) *ICTs for Poverty Alleviation: basic tool and enabling sector*. Stockholm: SIDA.

Häusermann, J. (1998) *A Human rights Approach to Development*. London: DFID.

Hearn, G., Tacchi, J., Foth, M. and Lennie, J. (2008) *Action Research and New Media: Concepts, Methods and Cases*. Cresskill, NJ: Hampton Press.

Horwitz, R. (2001) *Communication and Democratic Reform in South Africa*. Cambridge: Cambridge University Press.

Horst, H. & Miller, D. 2006. *The cell phone: an anthropology of communication*. New York, NY, Berg.

Jallo, B. (2005). *Assessing community change: Development of a 'bare foot' impact assessment methodology*. *Radio Journal: International Studies in Broadcast & Audio Media*, 3 (1), 21-34.

James, J. 2004. *Information Technology and Development: A New Paradigm for Delivering the Internet to Rural Areas in Developing Countries*. Oxford: Routledge.

Katz, J., and Rice, R. (2002). *Social consequences of Internet use. Access, involvement and interaction*. Cambridge, MA: The MIT Press.

- Lister, R. (2004). *Poverty*. Cambridge: Polity Press.
- Long, N. (1989) *Encounters at the Interface: A Perspective on Social Discontinuities in Rural Development*. Wageningen Studies in Sociology, No. 27, Wageningen University.
- Long, N. and Long, A. (1992). *Battlefields of Knowledge: The Interlocking of Theory and Practice in Social Research and Development*. London: Routledge.
- Mansell, R. (2002). 'From Digital Divides to Digital Entitlements in Knowledge Societies'. *Current Sociology* 50(3), 407-426.
- Mansell, R. (2004). 'Political Economy, Power and New Media'. *New Media & Society* 6(1), 96-105.
- Marker, P. McNamara, K. and Wallace, L. (2002). *The Significance of Information and Communication Technologies for Reducing Poverty*. London: DFID.
- Martin et al. (2007). 'Finding the Local Community in Community Media: Some Stories from Nepal'. *Asia Rights Journal*, Issue 8.
- Mattelart, A. (1996). *The Invention of Communication*. Minnesota: University of Minnesota Press.
- Nair, S. et al. (2006) *Local Information Networks: social and technological considerations*. New Delhi, India: UNESCO.
- Narayan, D. and Petesch, P. (2002) *Voices of the poor: from many lands*. Washington: World Bank.
- Ojo, T. (2004) 'Old Paradigm and Information & Communication Technologies for Development Agenda in Africa: Modernisation as Context'. *Journal of Information Technology Impact*, Vol. 4(3): 139-150.
- Rice, R. & Haythornthwaite, C. (2006). 'Perspectives on Internet use: Access, involvement, and interaction'. In L. Lievrouw & S. Livingstone (Eds.), *Handbook of New Media* (updated paperback student edition) pp. 92-113. London: Sage.
- Rockefeller Foundation. (2002) *Communication for Social Change: An Integrated Model for Measuring the Process and its Outcomes*. New York: Rockefeller Foundation.
- Rodriguez, C. (2001). *Fissures in the Mediascape: An international study of citizens' media*. Cresskill NJ: Hampton Press.

- Selwyn, N. 2004. *Reconsidering Political and Popular Understandings of the Digital Divide*. *New Media and Society* 6(3), 241-262.
- Skuse, A. & Cousins, T. (2007) *Managing Distance: the Social Dynamics of Rural Telecommunications Access and Use in the Eastern Cape, South Africa*. *Journal of Asian and African Studies*. Vol. 42(2): 185-207.
- Skuse, A. & T. Cousins. (2008) *Getting Connected: the Social Dynamics of Urban Telecommunications Use in Khayelitsha, Cape Town*. *New Media and Society*, Vol 10(1).
- Slater, D. and Tacchi, J. (2004) *Research: ICT Innovations for Poverty Reduction*. New Delhi: UNESCO.
- Tacchi, J. (2007). 'Information, Communication, Poverty and Voice'. In *Moving Targets: Mapping the Paths Between Communication, Technology and Social Change in Communities*. Servaes, J. And Liu. S. (Eds.) Penang: Southbound.
- Tacchi, Jo and Grubb, B. (2007). 'The Case of the e-tuktuk'. *Media International Australia incorporating Culture and Policy* 125.
- Tacchi, J and Watkins, J. (Eds.) (2007) *Creative Digital Engagement for Development: Principles and Practices*. New Delhi. UNESCO.
- Tacchi, J., Fildes, J., Martin, K., Mulehahalli, K., Baulch, E. and Skuse, A. (2007) *Ethnographic Action Research: Trainers Handbook*. CD ROM version. New Delhi: UNESCO.
- Tacchi, J., Slater, D., & Hearn, G. (2003) *Ethnographic action research: A user's handbook*. New Delhi: UNESCO
- Torero and Von Braun (2005) *Information and Communication Technologies for the Poor*. , Washington DC: International Food Policy Research Institute.
- Tshering, K., and Martin, K. (2007). *Forging Innovations: Community Multimedia Centres in Nepal*. New Delhi: UNESCO
- UNAIDS/Penn State University. (1999) *Communications Framework for HIV/AIDS: A New Direction*. Geneva, Switzerland: UNAIDS.
- UNDP. 2001. *Human Development Report: Making New Technologies Work for Human Development*. New York, USA: UNDP.
- UNICEF/UNAIDS. 2002. *Communication from a Human Rights Perspective: Responding to the HIV/AIDS Pandemic in Eastern and*

Southern Africa. Nairobi, Kenya.

Waisbord, S. (n.d.) *Family Tree of Theories, Methodologies and Strategies in Development Communication*. New York: Rockefeller Foundation.

SDC/PANOS (2005) *Information and Communication Technologies and Large-Scale Poverty Reduction: lessons from Asia, Africa, Latin America and the Caribbean*. London: PANOS.

Warschauer, M. (2003) *Technology and Social Inclusion: rethinking the digital divide*. Cambridge MA: MIT Press.