



GENDER and ICTs

Overview Report

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ACRONYMS

ALAI	Agencia Latinoamerica de Información
APC	Association for Progressive Communications
APC WNSP	Association for Progressive Communications Women's Networking Support Programme
AUWMD	Association of Uganda Women Medical Doctors
AWORC	Asian Women's Resource Exchange
CBO	Community-based organisation
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CODESRIA	Council for Development of Social Science Research in Africa
DAWN	Development Alternatives with Women for a New Era
DFID	Department for International Development, UK
DISK	Dairy Information System Kiosk
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FEMNET	African Women's Development and Communication Network
GKP	Global Knowledge Partnership
GSWG	Gender Strategies Working Group
ICTs	Information and communication technologies
IDRC	International Development Research Centre
IDS	Institute of Development Studies
ILO	International Labour Organisation
INSTRAW	United Nations International Research and Training Institute for the Advancement of Women
IPR	Intellectual Property Rights
ITU	International Telecommunication Union
KRNIC	Korean Network Information Center
KTN	Knitting Together Nations
MDGs	Millennium Development Goals
MIC	Ministry of Information and Communications (South Korea)
NGO	Non-governmental organisation
NGO GSWG	NGO Gender Strategies Working Group
REPROSALUD	Community Reproductive Health Project, Peru
SDC	Swiss Agency for Development and Cooperation
SEWA	Self Employed Women's Association
Sida	Swedish International Development Cooperation Agency
SP	Stability Pact
SP GTF	Stability Pact Gender Task Force
TNCs	Transnational corporations
UN	United Nations
UNDAW	United Nations Division for the Advancement of Women
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNCSTD	UN Commission on Science and Technology for Development
UNGASS	United Nations General Assembly Special Session
UNIFEM	United Nations Development Fund for Women
USAID	United States Agency for International Development
WENT	Women's Electronic Network Training Workshop
WIPO	World Intellectual Property Organization
WSIS	World Summit on the Information Society
WTO	World Trade Organization

GLOSSARY

Analogue programme	Transmitted bit-by-bit by electronic wave
Broadband	A type of data transmission in which a single medium (wire) can carry several channels at once.
Digital	Transmitted all in one go by digits
GPL	General Public Licensing
IP	Internet Protocol
IT	Information technology
Input/Output	Input is whatever goes into a computer (e.g. data and commands) while output is anything that comes out of computer (e.g. text and pictures)
PDA	Personal Digital Assistant - a handheld device that combines computing, telephone/fax, Internet and networking features
Proprietary software	Privately owned and controlled software
PrepCom	Preparatory committee
Telecentre	Community based centres with ICT equipment
Teledensity	Telephone density
VoIP	Voice-over Internet Phone

For more definitions, search <http://www.webopedia.com>.

EXECUTIVE SUMMARY

New technologies in the information and communications arena, especially the Internet, have been seen as ushering in a new age. There is a mainstream view that such technologies have only technical rather than social implications. The dramatic positive changes brought in by these information and communication technologies (ICTs), however, have not touched all of humanity. Existing power relations in society determine the enjoyment of benefits from ICTs; hence these technologies are not gender neutral. The important questions are: who benefits from ICTs? Who is dictating the course of ICTs? Is it possible to harness ICTs to serve larger goals of equality and justice? Central to these is the issue of gender and women's equal right to access, use and shape ICTs.

Access to new ICTs is still a faraway reality for the vast majority of people. The countries of the South, particularly rural populations, have to a significant extent been left out of the information revolution, given the absence of basic infrastructure, high costs of ICT deployment, unfamiliarity with ICTs, dominance of the English language in Internet content and indeed – lack of demonstrated benefit from ICTs to address ground-level development challenges. These barriers pose even greater problems for women, who are more likely to: be illiterate; not know English; and lack opportunities for training in computer skills. Domestic responsibilities, cultural restrictions on mobility, lesser economic power as well as lack of relevance of content to their lives, further marginalise them from the information sector.

The ICT arena is characterised by the strategic control exercised by powerful corporations and nations – monopolies built upon the intellectual property regime, increasing surveillance of the Internet and an undermining of its democratic substance, and exploitation of the powerless by capitalist imperialism, sexism and racism. Within the ICT arena women have relatively little ownership of and influence on the decision-making processes, being underrepresented in the private sector and government bodies which control this arena.

ICTs have brought employment gains, including for women. However, patterns of gender segregation are being reproduced in the information economy where men hold the majority of high-skilled, high value-added jobs, whereas women are concentrated in the low-skilled, lower value-added jobs. Work in call centres perpetuates the devaluation of women's labour, and organisations in the information technology sector, as elsewhere, reward behaviour that is considered masculine.

Some international organisations and civil society groups are engaging with issues that concern the democratisation of the ICT arena – from the digital divide and the right to communicate, to cultural diversity and intellectual property rights. Gender equality advocates have also been pushing for addressing the gender dimensions of the information society: integrating gender perspectives in national ICT policies and strategies, providing content relevant to women, promoting women's economic participation in the information economy, and regulating violence against women and children connected to pornography on the Internet. The World Summit on the Information Society

(WSIS) held at Geneva in December 2003, brought together the multiple stakeholders in the arena to address the challenges and possibilities posed by ICTs, although with mixed outcomes.

ICTs have also been used by many as tools for social transformation and gender equality. For example:

- E-commerce initiatives that link women artisans directly to global markets through the Internet, as well as support their activities with market and production information, are being tried today in many places by NGOs.
- E-governance programmes have been initiated by some governments using ICTs to make government services more accessible to citizens by providing them electronically, in some cases with an explicit strategy to ensure these services reach women and others who face barriers to access.
- Health educators have used the radio to communicate information related to women's sexual and reproductive health. Possibilities based on the Internet are also being explored.
- Information sharing and dialogues through email, online newsletters and List Serves between women from the North and South and among women in the South have also enabled collaboration and a convergence of effort on a global scale to push the agenda of gender equality.

Such activities have been most effective where they go beyond issues of access and infrastructure to consider the larger social context and power relations. Effectiveness and reach have also been enhanced by combining "old" technologies such as radio, with "new" technologies such as the Internet.

Far-reaching changes towards gender equality and women's empowerment in the ICT arena are needed at every level – international, national and programme. Engendering ICTs is not merely about greater use of ICTs by women. It is about transforming the ICT system. This involves:

- Governments building ICT policies with strong gender perspectives and engaging with civil society and gender and ICT experts on these areas.
- International fora such as WSIS being used to challenge northern and corporate dominance of the ICT arena.
- Clear gender strategies being deployed through design, in the implementation and evaluation of ICT projects and programmes.
- Collecting information with sex-disaggregated statistics and gender indicators on access to, use of and content of ICTs, on employment and on education.
- Consideration of gender issues in: ICT/telecommunications policy; representation in telecommunications/ICT decision-making; and the differential impact of telecommunications/ICTs on men and women.

To make these happen, gender equality advocates need to storm the ICT arena in the untiring ways we have seen them engage in before.

1. Introduction

A century and more after the industrial revolution, we are in the throes of another major shift in human civilisation – the information revolution that has given birth to the “information society”. The “information society” is among the most discussed phenomena in recent times. New information and communication technologies (ICTs), especially the Internet, have been seen as ushering in a new age. As participants in this information age, many of us experience exciting changes in the way our lives are organised today. However, many of us also feel that there are disconcerting aspects to the times we live in. While considerable optimism is vested in the promise of information and communication technologies for human progress, it is also true that the information age is not all rosy – the benefits of this new age have not touched all of humanity, and all its outcomes are not necessarily positive.

Who benefits from ICTs? Who is dictating the course of ICTs? Is it possible to harness ICTs to serve larger goals of equality and justice? These questions are the subject of this report. They have deep social significance and gender is central to these questions.

This introductory section provides a broad sweep of the ICT arena, introducing gender issues. It offers a bird’s eye view of the central themes in the gender and ICTs debate. It covers four broad areas: some basic information on gender and technology; the meaning of ICTs; the ICT arena – its key players and key politics; and an analysis of how gender has featured in the information society debate.

Section 2 of the report goes on to discuss inequities in the ICT arena, and the gender dimensions of these inequities. The potential for ICTs to promote women’s rights and empowerment is discussed in Section 3. Section 4 concludes with a discussion of the directions for engendering the ICT arena.

1.1 Gender and Technology

Debates around the relationship between gender and technology provide a starting point for a discussion on gender and ICTs. This subsection presents some theories examining women’s unequal access to technology and makes a case for considering the context of the relationship between gender and technology.

A Theoretical Background

Mainstream views of technology often take it to be a technical tool that society can use, but not something that in itself is influenced by society. They also ignore the differential influences of technology on the various sections of society. As such, technology is seen to be gender neutral.

However, feminist scholarship has pointed to women’s exclusion from science and also from the creation, design and use of technology. Theories of women’s relationship to technology within different strands of feminist thought are summarised in Table 1 below. The more recent critiques point to the dangers of putting technology ahead of people and of an uncritical acceptance of modern technology as something that works everywhere and provides immediate solutions to development challenges. The gendered approach argues that technology is not neutral, but depends on culture. This report takes this gendered/“technology as culture” approach as outlined in the table below.

Table 1: Women’s Relationship with Technology			
Approach	Primary Thrust	Central concepts	Critique/Comment
Women in technology / liberal approach	To uncover the women hidden from history	Sees technology as inherently neutral. Sees the challenge to be improving women’s access to technology in a society that is gendered by stereotypical sex roles.	Does not critique technology itself.
Marxist approach	To examine the social relations of technology in terms of class.	Sees women’s exclusion from technology as due to the gender division of labour, and the historical and cultural view of technology as masculine. Sees technology as reflecting male power as well as capitalist domination.	Technology still seen as neutral and “misused” under capitalism
Eco-feminist approach	To show that technology, like science, is part of the masculine project of the domination and control of women and nature.	Gives value to “feminine” knowledge and skills arising from women’s biology and presumed closeness to nature. Has been used to critique military and reproductive technologies.	Takes an essentialist position, seeing gender as (at least partly) biological
Third-world and Subsistence perspectives	To argue the inappropriateness of Western / modern technologies to the Third World.	Challenges western systems of knowledge and technology by asserting that these are colonising and displace local knowledge and experience. Offers a new vision of technology that is democratic, non-colonial, and non-patriarchal.	Puts too much emphasis on people-based knowledge systems, rejecting possible adaptation of modern technologies for progressive purposes.
Gendered /	To reject the view that	Understands gender and	Based on the

<p>“technology as culture” approach</p>	<p>technology is inherently neutral or inherently masculine</p>	<p>technology as cultural processes which can be negotiated and transformed. The relationship between gender and technology is seen as the core issue. Technology is understood to be ‘shaped by local histories, geographical conditions, and everyday cultural practices...’ (Gajjala 2002).</p>	<p>interactions between social power relations and the culture of technology.</p>
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(Wood 2000)

In the discussion of gender and technology, it must be remembered that women have multiple identities – for example of class, ethnicity, caste, race, age – and that these interplay with gender to define women’s access to technology. Strategies for addressing unequal gender relations will therefore need to hinge on an understanding of the complex intersections of gender and other social identities.

For instance, while it may not be difficult for an upper class, urban woman to have easy access to the Internet, it may be unthinkable in feudal rural contexts for a poor, low- caste man to access a public telephone facility. While such realities of particular contexts are at the heart of the relationship between gender and technology, it needs to be remembered that women and men from the same social context may not enjoy equal access to ICTs. Women’s rights groups working in rural areas point to how access to household assets is affected by gender. If the household has one radio, it is most likely to be used by men. Women may not have the leisure to listen to the radio, nor may be allowed to join the men sitting outside the house listening to the radio.

The fact that technology has remained a male preserve historically, suggests that the appropriation by women of technology is in itself a political project. And, as active agents of change, women have been engaged in the process of claiming technology (see Box 1). However, we cannot assume that all women relate to technology in the same way. This will result in over-generalised approaches to redressing gender imbalances in access. We also cannot ignore the fact that gender power operates within institutions in many insidious ways. Therefore, women’s empowerment in the information society requires a constant examination of how gender relations as a dynamic cultural process are being negotiated and contested, in relation to the technology environment.

The claiming of technology by women for communicating their concerns started well before the advent of new ICTs. The underside of history is full of examples of women negotiating their spaces in private and public domains. Women have been publishing their concerns, using various media to challenge and even subvert mainstream, dominant (patriarchal) ideas. See an example of this in the box below.

Box 1: Women's Pirate Radio – Underside of History

In the mid-1970s, the women's movement, particularly in Western Europe, used pirate radio (low-power unlicensed broadcasting) to strengthen the visibility of women's issues. Feminist groups in several European countries became forerunners in the development of "free radio". Radio Donna in Rome, Les Nanas Radioteuses in Paris and Radio Pleine Lune in Ferney-Voltaire in France along the Swiss border, were some of the earlier experiments with local radio. Radio programmes were made on a variety of issues seldom considered in conventional radio programming. Abortion, for example, then virtually a taboo topic, was raised by the female radio pirates. Women's sexuality, prostitution, migration and trafficking were also raised in community radio. Programmes produced on these themes would not otherwise be broadcast by government or commercial stations. Or if they were, the coverage was distorted in ways that put the blame on the women themselves.

Source: Cabrera-Balleza 2003.

1.2 ICTs: Old and new

This subsection introduces ICTs. It looks at the notions of "old" and "new" ICTs and analyses why new technological developments are seen as so significant.

The range of technologies that serve information and communication needs in society extends from print media and fixed-line telephones, to satellite technology and the Internet. The spectrum of what may be seen as ICTs includes 'a complex and heterogeneous set of goods, applications and services used to produce, distribute, process and transform information' (Marcelle 2000: 5). The ICT sector is seen as consisting of segments as diverse as telecommunications, television and radio, computer hardware and software, computer services and electronic media like the Internet, as well as the content of these media.

We often hear references to "old" and "new" technologies. "Old" technologies include non-electronic media like print and analogue technologies (information is transmitted bit-by-bit by electronic wave) like radio. New technologies refer to digital technologies (information is transmitted all in one go by digits) like computers, the Internet, electronic mail and multimedia. Old technologies still have a defining role to play in meeting the information and communication needs of a large majority.

Understanding the new in relation to the old

Technologies that concern information and communication have some unique dimensions. The mainstream of these technologies have certainly served vested interests – television, for instance, has been blatantly used as a tool of "cultural imperialism" by the developed world to push its version of globalisation. But ICTs also carry strong possibilities for empowerment of the excluded. The written word broke the power of the few who possessed knowledge in oral traditions. The invention of paper, and later printing, opened the floodgates of knowledge dissemination. Widespread use of books and the phenomenon of mass education democratised the power of information and opened new possibilities for the excluded to resist exploitation. Radio brought public discussions into homes. TV

greatly enriched the discourse, streaming in live reality from the world over. Telephone personalised communication over long distances. All these ICTs have been redefining gender relations in complex and multi-dimensional ways. Feminist critiques provide insights into how the media can be a powerful force in reinforcing traditional ideas of how women and men should behave. At the same time, women and men have actively used the media to challenge gender norms.

So, why are new ICTs so significant? New ICTs have fresh impact in two ways: one, they bring a major shift in the vastness, depth and the ease of use of the information and communication processes already being facilitated by the old ICTs. For the user, mobile telephony, built upon wireless and digital platforms, is in no way really different from old telephony except that it allows ease of use, has much more widespread coverage and also, in the long run, makes cheaper telephony possible. Internet telephony, also again no different in use and enabling possibilities, is set to make telephony all over and across the world extremely economical. Internet radio again provides much greater variety and reach than ever before. Broadband is expected to make TV over the Internet commonplace.

The second way these technologies are “new” is in that they allow for processes that were previously not possible, like a seamless interactive communication on the one hand, and cheaper and more efficient handling of information through digitisation, on the other. These technological possibilities allow for interesting social opportunities, of bottom-up and peer communication and easy creation, storage, low-cost reproduction, manipulation and distribution of information.

Two important issues emerge in this discussion:

- It is not the case that old technologies become obsolete just because a radical technological possibility has emerged. A fascination for the new ICTs has often meant the pursuance of technology for technology’s sake. Without a careful assessment of information and communication needs and an equally careful matching of technological possibilities with those needs, a fancy for new ICTs can lead to great wastefulness of scarce resources. While it is true that new ICTs have reduced the costs of communication and information handling, it will be years before the economies of scale and the maturing of new ICTs begin to impact costs for every user. It is not a choice between one or another, it is about getting the best mix of new and old, so that the benefits of new technology can reach more people.
- Technological invention itself is no guarantee of empowerment. A vast majority of the world’s population is still untouched by the Internet. Unevenness in the diffusion of new ICTs is indeed stark. What is more, diffusion defined in terms of availability of physical infrastructure or connectivity may not capture actual use, since the latter is affected by socio-cultural factors. Undoubtedly, technological leaps contain the seeds for random and unanticipated change, but technology needs to be specially harnessed towards social ends through active human mediation. The fact that centuries after ICTs such as cheap printing appeared, a vast section of humanity lacks literacy, testifies to our failure to prioritise the social role of technology.

The specific characteristics of new ICTs create new opportunities for addressing gender equality. These are being tapped by women's organisations and civil society groups that work towards gender equality – through building online communities and networks; expanding women's access to global and local markets; developing women's ICT capabilities to further empowerment goals; deploying ICTs for human development in health, nutrition and education; and promoting advocacy, mobilisation, and solidarity-building. (These are discussed in detail in Section 3.) Electronic networking between women has led to new social and economic phenomena, such as e-campaigns, e-commerce and e-consultation (ILO 2001a). At the same time, gender advocates continue using radio, video and print media and have been exploring appropriate technology mixes that most suit their purposes.

This report focuses on new technologies, but includes discussion of how combining these with old technologies may be necessary to make them relevant.

1.3 The ICT Arena

Getting a good idea of the context is important in order to grasp the gender issues related to ICTs. The ICT arena is discussed here, with an outline of key actors and key events that have shaped the information society debate. The World Summit on the Information Society (WSIS) is also analysed to provide a perspective on debates and critical themes pertaining to the ICT arena.

1.3.1 Key Actors in the Information Society

The private sector

The information revolution owes its origins to private sector players. Responsible for the basic architecture of and continuing innovations in the ICT arena, private sector players are the creators of hardware, software and applications, and control the framework of the Internet, such as IP (Internet Protocol) addresses, domain name systems. US-based transnational corporations like IBM, Microsoft, Oracle, and Sun exercise significant clout in the ICT arena. This factor, along with other enablers such as infrastructure has propelled the US to be the most powerful country in the ICT arena. While the benefits of ICT diffusion have accrued mainly to developed countries (Section 2 discusses this in detail), some countries in the developing world like Taiwan, Korea and Malaysia play an important role in hardware production, while countries like India are prominent in the software sector and in IT-enabled outsourcing.

Governments

Governments have mostly seen ICTs as an economic opportunity, and have therefore been content to be led by private sector interests. For developed country governments, this has meant catering to interests of their ICT transnationals, while many Southern governments have pushed for job creation and export possibilities in the sector. Some governments have also been eager to explore possibilities

in e-governance, focusing on reengineering their internal systems and processes towards greater efficiency. Only recently have some governments of developing countries made tentative beginnings in tapping the immense possibilities for using e-governance as a platform for stronger democratic processes like participation and accountability.

International organisations

A number of international organisations, within and outside the UN body, are key players in the ICT arena. The International Telecommunication Union (ITU) is working on technical infrastructure issues. The United Nations Educational, Scientific and Cultural Organization (UNESCO) is debating a number of themes relevant to the information society – education, free speech, cultural diversity – including content and intellectual property. While intellectual property is the main focus of the World Intellectual Property Organization (WIPO), a number of further aspects of information exchange or intellectual property are dealt with by the World Trade Organization (WTO).

Civil society

Civil society groups have also been at the forefront of global advocacy, pointing to: the technocentricism of global ICT debates; the multiple digital divides, including the gender divide; and the need to preserve and nurture the global information commons¹. In addition, they have decried international regulations on privacy and media ownership.

The broad range of themes critical to the information society debate has seen the involvement of wide cross-sections of society: the trade union movement, community media activists, mainstream and traditional media interest groups, parliamentarians and local government officials, the scientific and academic community, educators, librarians, volunteers, the disability movement, youth activists, indigenous people's, "think-tanks", philanthropic institutions, gender advocates, and human and communication rights advocates.

1.3.2 World Summit on the Information Society (WSIS)

The UN World Summit on the Information Society (WSIS) was the first major multi-stakeholder platform where actors in the ICT arena came together to debate issues from their respective standpoints. Organised by the United Nations and the International Telecommunications Union, WSIS sought to develop a global framework to deal with the possibilities and challenges posed by the information society. Held at Geneva, WSIS is a two-phase Summit – Phase I was held in December 2003 and Phase II is scheduled for November 2005. WSIS is the first UN Conference where the private sector has been included as a stakeholder. The 56th Session of the United Nations General Assembly mandated the WSIS to address the 'urgent need to harness the potential of knowledge and technology for promoting the goals of the United Nations Millennium Declaration and to find effective and innovative ways to put this potential at the service of development for all'.

¹ The information commons derives from the concept of the village commons – spaces that are accessible to everyone. The global information commons refers to knowledge in the public sphere.

At WSIS, civil society lobbying for progressive language fell through the cracks. The text adopted protects private sector interests and excuses governmental undermining of individual rights and freedoms, at the expense of major civil society concerns. The Brazilian declaration sought measures to promote free software², but the US delegation was firmly against it. The outcome was a sort of draw, with the final declaration presenting free software, open-source³, and proprietary⁴ software as equally legitimate. The proposal for a “right to communicate” (not merely to access information) using the Internet was shot down by many of the participants. The Summit has been criticised for situating its 2005 meeting in Tunisia where people have been imprisoned for using the Internet to criticise the government. For many Southern governments, the Summit was a disappointment. Two of their main demands have been postponed to a future date: these are a revision of the mechanisms of Internet governance (which presently is controlled by the US government and corporations) and a commitment to creating a Digital Solidarity Fund to finance ICT development in the South. Despite active lobbying by gender advocates, the Summit paid lip service to gender but did not recognise gender as a key political issue in the ICT arena, nor make specific commitments to actively promote women’s equal role in the information society.

WSIS was mandated with the people-centred agenda of furthering achievement of the Millennium Development Goals (MDGs). The irony is that the process turned out to be mostly stuck in political posturing by governments, many of whom were more interested in protecting the interests of multi-national companies than promoting people’s interests. For many governments, WSIS was in fact an initiation into the information society debate. WSIS was a step forward in that a multi-stakeholder approach was taken, with participation of the private sector and civil society. But civil society’s input did not have sufficient impact. Official delegations were unwilling to agree upon rights and values that the international community has endorsed in various international conventions and declarations in the previous years (Heinrich Boll Foundation 2003). The result has been that WSIS failed to develop a broader vision towards an inclusive, sustainable and people-centred information society. It remains to be seen whether WSIS will succeed in doing so in the second Summit scheduled for November 2005 in Tunis, Tunisia.

1.4 Gender in the ICTs Discourse

Gender concerns in relation to new ICTs were beginning to be raised in the late 1990s. This subsection maps gender issues in the ICT arena. It records advocacy around this issue, and shows how a strong consensus reflecting progressive commitments to gender equality from the international community is still lacking.

² Free software has emerged as a key collaborative tool in the 1990s to posit a democratic alternative to proprietary control over code. Free and open-source software evangelists see it as central to the digital public domain.

³ Open-source software consists of open and readable code that can be freely re-distributed, analysed and modified by anyone with programming skills.

⁴ Proprietary software is commercial or privately owned software.

1.4.1 Critical themes in the Gender and ICTs discourse

Discussion of gender issues in connection with new ICTs derives in part from earlier analyses about women and technology, and women and media. During the 1990s, gender issues in communication and media focused on three broad issues: the equitable access of women and women's organisations to the means of public expression; women's access to professional careers and decision-making positions that have traditionally been male preserves; and the portrayals of women reinforcing or changing stereotypes. More recently, there has been a shift from an emphasis on women solely as objects of information to a focus on women as controllers of information – in other words not only changing the way women are talked about, but also enabling more women, particularly marginalised women, to create their own information and spread their own messages through the new ICTs (Burch and Leon 2000).

Reference to gender and new ICTs figured prominently for the first time in an Association for Progressive Communications (APC) document in 1995 (Burch and Leon 2000), which highlighted the need to broaden media and communication advocacy to factor in the Internet boom.

The governments of the industrial powers and transnational communications corporations are involved in negotiations relating to the future of the communications industry and among other aspects, to the international distribution of cyberspace (that is, the infrastructure and legislation that will determine the operation of computer networks.) Women's and citizens' groups do not have a voice in the negotiations which will influence national and international legislation and therefore their access to technological and information resources. It is therefore imperative to create mechanisms for them to formulate and defend their needs and interests.

Gender issues in the information society cover a wide spectrum: integrating gender perspectives into national ICT policies; raising awareness among gender advocates about the importance of national ICT plans for gender equality; promoting gender-responsive e-governance; effective use by women of ICTs and the need for relevant content; promoting women's economic participation in the information economy; promoting democratic media, and combating the use of the Internet to perpetuate violence against women. Due to active advocacy, these issues have gained prominence in recent debates on ICTs and particularly in the run-up to WSIS (See Table 2 for some milestones).

Gender advocates in the ICT arena call for the realisation of gender equality within the ICT sector and for ICT diffusion that contributes to positive change in gender relations. Achieving this will require more than mainstreaming gender concerns into the ICT arena; it will require transformation of the ICT sector, not just the integration of women into that sector, untransformed (Marcelle 2000).

Table 2: Advocacy for Gender Issues in New ICTs – Some Critical Milestones		
The Association for Progressive Communications (APC) Women's Networking Bureau	1992	Set up after the United Nations Conference on Environment and Development. Women from various member organisations of the APC got together to address the networking and advocacy needs of organisations in the international women's environment and development movement.
The APC Women's Networking Support Programme (APC WNSP)	1993	In May 1993, at the Vienna Conference on Human Rights, ideas were developed for an information and communications strategy towards the Fourth World Conference on Women. WNSP was set up to address global networking needs in the run-up to the Beijing Conference. Supported by regional partner organisations and community-based women's groups in the South, APC WNSP successfully mobilised the participation of women from the South through electronic networking.
The Fourth World Conference on Women, Beijing	1995	The Beijing Platform for Action made explicit reference to computer technology and to satellite and cable television as opportunities for the participation of women in communications.
World Telecommunications Development Conference, organised by ITU, Valletta, Malta	1998	UNIFEM, United Nations University Institute on New Technologies and the Canadian International Development Agency were key actors. Policy-related papers on gender and ICTs were presented by governments and the ITU Gender Task Force was established.
United Nations General Assembly Special Session (UNGASS) to review the status of the Beijing Platform for Action	2000	An online women-media consultation was organised by the UN Internet initiative Women Watch and facilitated by WomenAction. Perspectives emerging from here were put forward into the proposals relating to media and communication issues. State actors at Beijing+5 were, however, resistant to the gender and ICTs agenda, and some countries also resisted references to even democratic forms of regulating the ICT industry.
Gender and the Digital Divide Seminar Series	2000	The Seminar Series is being sponsored by the Gender and Development and Girls' Education Thematic Groups, and the Bridging the Digital Divide through Education Task Force of the World Bank. The series looks at the impact of ICTs on gender relations and innovative ways that ICTs are being used to overcome gender inequalities and bridge the digital divide.
United Nations	2001	The study demonstrated the lack of attention to gender

Economic and Social Commission for Asia and the Pacific (ESCAP) Study of Regional ICT Policy Framework and Legislation Environment		equality goals and women's advancement in national ICT development frameworks and strategies.
United Nations / United Nations International Research and Training Institute for the Advancement of Women (INSTRAW) Virtual Seminar Series on Gender and ICTs	2002	Discussions were pegged around key theme papers – 'Are ICTs Gender Neutral?', 'Women and ICTs: Enabling and Disabling Environments', 'En-gendering Management and Regulation of ICTs', and 'ICTs as Tools for Bridging the Gender Digital Divide and Women's Empowerment.'
UN Division for the Advancement of Women (UNDAW), Ministerial Roundtable, Bucharest, Rumania	2002	This was a Pan-European Regional Ministerial Meeting titled 'Building a Gender-sensitive Information Society'
UNDAW, Expert Group Meeting on Gender and ICTs, Seoul, Republic of Korea	2002	The meeting focused on ICTs and their impact on and use as an instrument for the advancement and empowerment of women. An online conference was held from 17 June to 19 July 2002 to serve as a transitional forum for the Expert Group Meeting.
UNDAW, Expert Group Meeting on Gender and Media, Beirut, Lebanon	2002	The meeting focused on 'Participation and Access of Women to the Media, and the Impact of Media on and its Use as an Instrument for the Advancement and Empowerment of Women'.
WSIS Gender Caucus	2002	The WSIS Gender Caucus was formed during the WSIS African regional preparatory conference which took place in Mali from 25–30th May 2002. It is a multi-stakeholder group consisting of women and men from national governments, civil society organisations, non-governmental organisations, the private sector and the United Nations system. The Caucus sought to facilitate women's participation in the WSIS process and ensure that gender equality and women's rights are integrated into WSIS and its outcome processes.
NGO Gender Strategies Working Group (GSWG)	2002	The NGO GSWG was formed at the first WSIS PrepCom at Geneva in July 2002 as one of the sub-committees of the Civil Society Coordinating Group. The groups involved in the NGO GSWG are the African Women's Development and

		Communication Network (FEMNET), the Association for Progressive Communications Women's Networking Support Programme (APC WNSP), ISIS International-Manila, and Agencia Latino Americana de Información.
47 th Session of the UN Commission on the Status of Women, New York, US	2003	The session discussed the 'Participation and Access of Women to the Media, and Information and Communications Technologies and their Impact on and Use as an Instrument for the Advancement and Empowerment of Women.'
WSIS	2003	Declaration of Principles and Plan of Action adopted by multiple stakeholders. The Declaration does not affirm gender equality as it is laid out in the Beijing Declaration. The Plan of Action makes piecemeal references to women and girls.

The case for equal opportunities for women to access, use and shape ICTs may be argued along many perspectives – the fundamental ones being the right of women to non-discrimination, to communication, and to development and freedom from poverty through enhanced capacities and improved choices.

The Beijing Platform for Action adopted at the Fourth World Conference on Women, at Beijing, on 15 September 1995, was the first international policy framework that talked about gender issues in relation to ICTs.

With advances in computer technology and satellite and cable television, global access to information continues to increase and expand, creating new opportunities for the participation of women in communications and the mass media and for the dissemination of information about women. On the other hand, the global communication networks have been used to spread stereotyped and demeaning images of women for narrow commercial and consumerist purposes. Until women participate equally in both the technical and decision-making areas of communications and the mass media, including the arts, they will continue to be misrepresented and awareness of the reality of women's lives will continue to be lacking.⁵

The WSIS Declaration and Platform for Action, however, fails to build on the Beijing Platform for Action in this area. The inclusion of gender concerns in the WSIS documents was much contested (See Box 2 below).

Box 2: Gender in the World Summit on the Information Society (WSIS)

Two groups of gender advocates participated in the preparatory process for WSIS – the multi-stakeholder WSIS Gender Caucus (GC, <http://www.genderwsis.org>), and the NGO Gender Strategies Working Group (NGO GSWG, <http://www.genderit.org>). These groups were able to mobilise some support with civil society groups active in the WSIS process for introducing a strong gender

⁵ See <http://www1.umn.edu/humanrts/instree/e5dplw.htm>.

perspective in the WSIS Declaration through targeted interventions for gender equality – a strategy endorsed by the Beijing Platform for Action. However, these were not favoured in the final language of the WSIS declaration. In fact pre-WSIS literature that analyses the WSIS process points to this dilution: '[the] majority of representatives – be they from governments, civil society or business – favour a minimum of references to targeted interventions in limited contexts on behalf of girls and women over gender mainstreaming' (Jenson 2003).

Despite active lobbying by gender advocates, the draft documents did not incorporate gender equality in their basic framework (a characteristic that remains true for the final WSIS Declaration). At one point, during the preparatory processes prior to the Summit, in July 2003, all references to women suddenly disappeared in the draft documents. With protests from gender advocates, these were restored. However, the fundamental principle of gender equality in the information society debate had by then been lost. The negotiations were subsequently to be conducted over a sentence here or a paragraph there on gender.

In fact the Canadian delegation proposed a gender paragraph that sought to combine gender-mainstreaming strategies with targeted interventions. Despite strong support from gender advocates, this paragraph was not included. In September 2003, three months before the Summit, the gender paragraph in the declaration looked really weak. The active lobbying by the GC and the NGO GSWG finally saw inclusion of a political perspective on gender, and the gender paragraph in the final WSIS Declaration of Principles now stands as follows:

'We affirm that development of ICTs provides enormous opportunities for women, who should be an integral part of, and key actors, in the Information Society. We are committed to ensuring that the Information Society enables women's empowerment and their full participation on the basis of equality in all spheres of society and in all decision-making processes. To this end, we should mainstream a gender equality perspective and use ICTs as a tool to that end.'

Paragraph 12, Declaration of Principles, WSIS, First Phase, Geneva⁶

While WSIS certainly marks an important milestone in the advocacy concerning gender issues in the ICT arena, the outcomes fall short of providing specific directions and action plans for the building of a gender-just information society.

Progressive language that draws upon the perspectives of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and the Beijing Declaration is found in the Civil Society Declaration to the World Summit on the Information Society 'Shaping Information Societies for Human Needs':

Equitable, open and inclusive information and communication societies must be based on gender justice and be particularly guided by the interpretation of principles of gender equality, non-discrimination and women's empowerment as contained in the Beijing Declaration and

⁶ See http://www.itu.int/dms_pub/itu-s/md/03/wsis/doc/S03-WSIS-DOC-0004!!MSW-E.doc.

Platform for Action (Fourth World Conference on Women) and the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).⁷

Gender equality advocates have the task of mobilising a multi-stakeholder commitment to such a perspective.

⁷ See <http://www.wsis2005.org/wsis/documents/summit/WSIS-CS-Decl-08-12-03-en.pdf>.

2. Inequities in the Information Society

This section seeks to examine the political underpinnings of the global information society. Looking at the larger picture – the political and economic context of ICTs – is important to understanding who benefits, who does not, and why. Gender dimensions of this context are extremely significant.

2.1 The Digital Divide

The divisions between winners and losers in the global ICT arena are stark. This subsection offers some statistical analysis to illustrate inequities in access to ICTs. It also shows how the control of the ICT arena by powerful corporations, and the power relations between rich and poor countries, the state and citizen, men and women, determine access to benefits in the ICT arena. It highlights how, in the process of globalisation, the potential of ICTs is captured for furthering the interests of the powerful.

In the information economy, wealthy countries and sections of society with the orientation, skills, income and time to access ICTs reap the benefits. Access to and strategic control of the ICT arena confer on powerful nations, corporations, groups and individuals alike, the privilege to influence the arena and gain from the innovation and change occurring at an extraordinary pace in the larger ICT environment.

On the other hand, a disproportionate burden of challenges is borne by the majority. The digital divide, referring to the uneven distribution of benefits of ICTs within and between countries, regions, sectors, and socio-economic groups, signifies the uphill task facing developing countries and disadvantaged groups and sections in society (even in the developed countries) in their attempts to reap the benefits of the ostensibly level playing field that ICTs are supposed to provide.

2.1.1 Inequities in Access

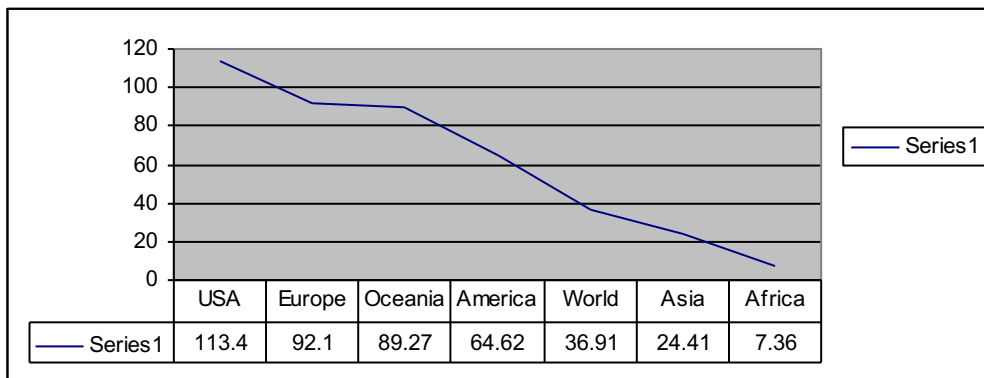
‘The so-called digital divide is actually several gaps in one. There is a technological divide – great gaps in infrastructure. There is a content divide. A lot of web-based information is simply not relevant to the real needs of people. And nearly 70 per cent of the world’s websites are in English, at times crowding out local voices and views. There is a gender divide, with women and girls enjoying less access to information technology than men and boys. This can be true of rich and poor countries alike.’⁸

UN secretary General, Kofi Annan

⁸ <http://www.un.org/apps/sq/sqstats.asp?nid=695>

Infrastructure gaps are reflected in telephone density figures (see Graph 1), which show high levels of geographic disparity with 113.4 phones per 100 population in the US and 7.36 in Africa. Telephone connections have historically been the backbone of Internet connectivity, and are therefore at the heart of the infrastructure divide.

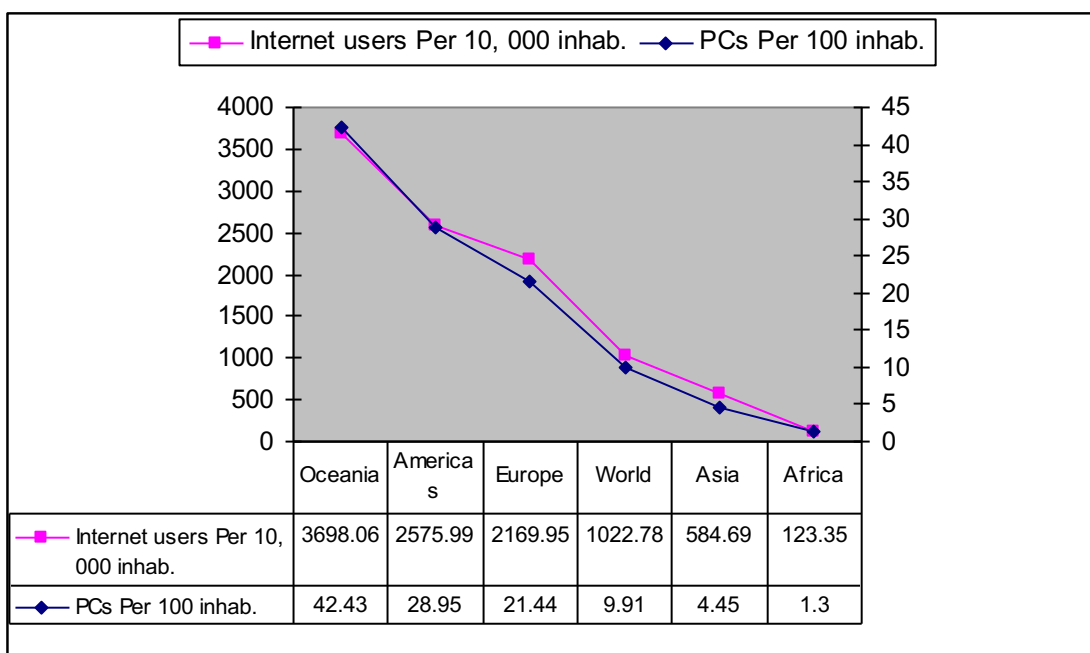
Graph 1: Telephone subscribers per 100 population



Source: Graph based on data from ITU, 2003, http://www.itu.int/ITU-D/ict/statistics/at_glance/main02.pdf

The infrastructure divide manifests itself in differential access to computers and the Internet. As Graph 2 indicates, Asia and Africa lag far behind the rest of the world in this respect. In Asia, there are only 4.45 personal computers per 100 inhabitants, in Africa 1.3. Even within regions, there are wide variations. For instance, in 26 out of 45 countries in Asia where data is available, Internet users constitute less than 5 per cent of the population. In South Korea and Singapore, more than 50 per cent of the populations use the Internet, whereas in countries like Myanmar and Tajikistan, only 0.5 per cent of the populations are Internet users.

Graph 2: Access to New ICTs



Source: Graph based on data from ITU, 2004, http://www.itu.int/ITU-D/ict/statistics/at_glance/Internet02.pdf

It is also important to remember that Internet users, even within any country, are geographically extremely concentrated, and rural populations are mostly excluded (see Box 3).

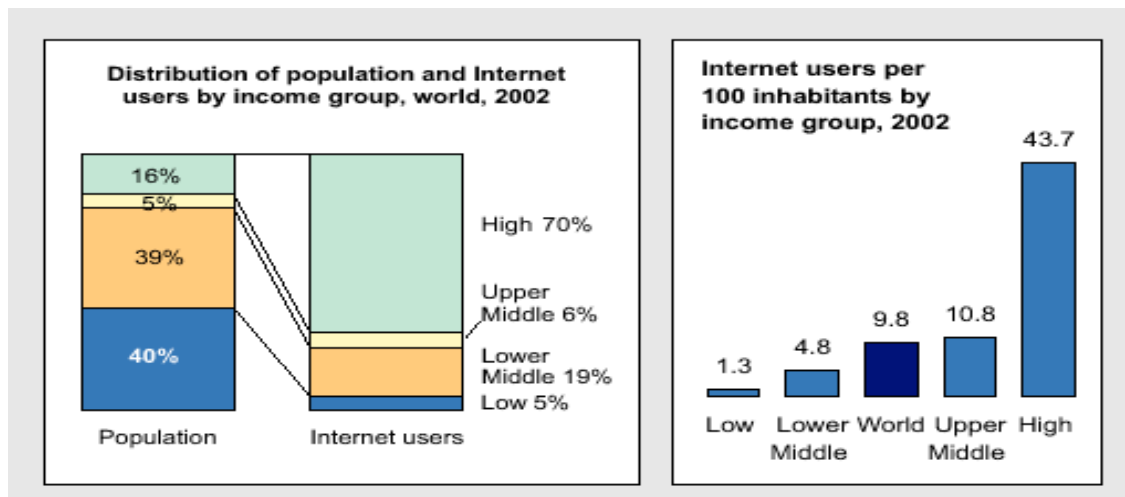
Box 3: The Rural-Urban Divide

In developing country contexts, aggregated statistics about teledensity can be misleading. The aggregate figure conceals the low reach of telecommunications capacity and a high degree of urban and regional concentration. Also, dramatic increases in teledensity figures such as in countries like India in the recent past, are a result of an increase in cellular telephone connections. This can hardly be taken as indicative of the diffusion of telecommunications technology among those who have so far been marginalised from the network, given that this is largely an urban phenomenon. The rural-urban divide is also captured in startling figures on Internet access. In India, where more than 70 per cent of the population live in rural areas, more than three-quarters (77 per cent) of Internet users in August 2000 were from New Delhi and the capitals of Indian states. Two cities alone – Delhi and Mumbai – accounted for more than one-third of all users.

Source: Chandrasekhar 2003.

Income disparities are another key determinant of differential access. As Graph 3 shows, 70 per cent of Internet users belong to the top 16 per cent income bracket; and the bottom 40 per cent by income constitute only 5 per cent of all Internet users.

Graph 3: Access to New ICTs



Source: ITU 2003

Apart from location and income, language is another determinant of the digital divide. The predominance of English on the Internet is a barrier for most users globally. Speakers of non-European and indigenous languages – including a large proportion of women – tend to be left out of

the information loop. Even among the educated, proficiency in the dominant European language of a region may not be such that the user feels comfortable in using the Internet for training or involvement in List Serves (Huyer and Mitter 2003).

The information society divide is especially acute for women. This is discussed in detail later in this chapter.

2.1.2 Inequities in Ownership and Control

The ownership of global ICT systems is alarmingly skewed. Globally, media ownership reflects multinational ownership patterns and mega-mergers. The monopoly of Microsoft illustrates the tremendous challenges for democratising software architecture and ownership. The few large corporate players – software and hardware corporations, telephone companies, satellite networks and Internet Service Providers – are driven purely by profit motives (see Box 4).

Box 4: Monopolies and Access for the Poor

Voice-over Internet Phone (VoIP) is a cheap option in telephony but is not allowed in many countries because it affects the profits of telecommunication monopolies. Telkom, a formerly state-owned monopoly and the owner and operator of South Africa's telephone network, was privatised between 1997 and 2003. Despite enjoying an advanced network backbone, Telkom does not offer basic telephone service to a majority of South Africans. Because it depends on revenues from phone calls, Telkom has little incentive to offer cheap VoIP service. South African law dictates that only Telkom and "under-serviced area licensees" (small firms in rural areas) are allowed to offer VoIP, yet the government has not approved a single under-serviced area licensee. So today, for a variety of regulatory reasons, only Telkom can provide VoIP. For competitive reasons, it does not.

Source: Sprigman and Lurie 2004.

The Internet has been seen as a potentially level playing field, a space in which all participants are equal. However, the fact is that the Internet is built upon the corporate control of information content and infrastructure, IP (Internet Protocol) addresses and domain name systems (necessary for a presence in the Internet), and technical standards which include communication protocols, mail and document formats, sound and video formats, without all of which there would be no Internet.

Also, the democratic substance of the Internet is increasingly threatened, and individual liberties are under attack. Powerful corporate interests and some national governments are seeking to assert economic and political control respectively over the Internet to promote their interests. Many multinational ICT giants are interested in garnering their monopoly to control "personal information" about their clients. The "war against terror", it is widely acknowledged, has served as an excuse for the deployment of new technology as weapons of control to limit the right to privacy, and often to dissent. In countries like Vietnam and Tunisia, individuals have been arrested and some sentenced to prison

terms for using the Internet for criticising the government or sharing information with overseas dissent groups. In mid-2001, the Ministry of Information and Communications (MIC) of the Republic of Korea (South Korea) adopted an Internet content rating system classifying gay and lesbian websites as “harmful media” and enforcing their blockage – all under the guise of protecting youth.⁹

The growth of the Internet has coincided with the rise of the Intellectual Property Rights (IPR) regime, within the framework of neo-liberal globalisation. New ICTs have the potential to alter knowledge-sharing dramatically. This means that the excluded can freely access information resources for empowerment. However, such potential threatens vested interests, who have earlier benefited by controlling information, and stand to lose enormously unless information is kept scarce. These interests have pushed for an intellectual property regime that is harsh and unfair.

IPR is the key issue in the ICT sector today. Software monopolies such as Microsoft make huge profits by selling copies of software, thus incurring zero incremental cost of production. What is sold is only the license to use the software and not the software itself. This means buyers cannot make changes to the software as they may require. Advocates of free and open-source software counter this by promoting the sharing of software applications that can be modified by users. The open-source movement aims to provide an alternative to the existing intellectual property regime.

2.1.3 Work in the Information Economy

New ICTs are part of and influence the larger economic process of globalisation, which impacts men and women across the globe. In the new economy, ICTs have enabled new forms of work organisation and a new global division of labour.

For developing countries, the ICT industry offers employment opportunities as jobs are relocated, but the current rules of the game in the information economy do not guarantee equitable growth. Global production and distribution processes, supported by ICTs, actually mean that most activity continues to be controlled by transnational companies (TNCs) based in the North. Specific activities do take place in the South, but only in limited domains, and concentrated in particular geographic areas (Sassen 1997). Most developing countries perceive the IT sector as an opportunity for rapid job creation. However, a majority of call centres and data entry facilities – the segments where employment increase is maximum – are located in few countries of the world – India, Mexico, Philippines, Jamaica, and also increasingly in China. Even within these countries such facilities are geographically heavily concentrated in few zones.

The projected development of this sector seems to be no different from the route followed by the long-established garment and electronics sweatshops – poor wages, poor work conditions, the absence of unions, little to no skill or technology transfer, deskilling of the workforce, absence of career growth, and feminisation of the low-end jobs. Poor nations compete with each other to attract transnational corporations in a race to the bottom (Costanza-Chock 2003, Bidwai 2003).

⁹ See http://lists.village.virginia.edu/lists_archive/Humanist/v15/0212.html.

It is important to remember that redressing skewness in access is possible with affirmative action; however, the issue of skewed ownership and control needs to be addressed by appropriate regulatory frameworks at international and national levels. Needless to say, vested interests – powerful Northern economies and corporations pushing Intellectual Property regimes disadvantageous to the South – pose huge challenges to building equitable regulatory frameworks.

2.2 Gendered Dimensions of the Information Society: The Challenges

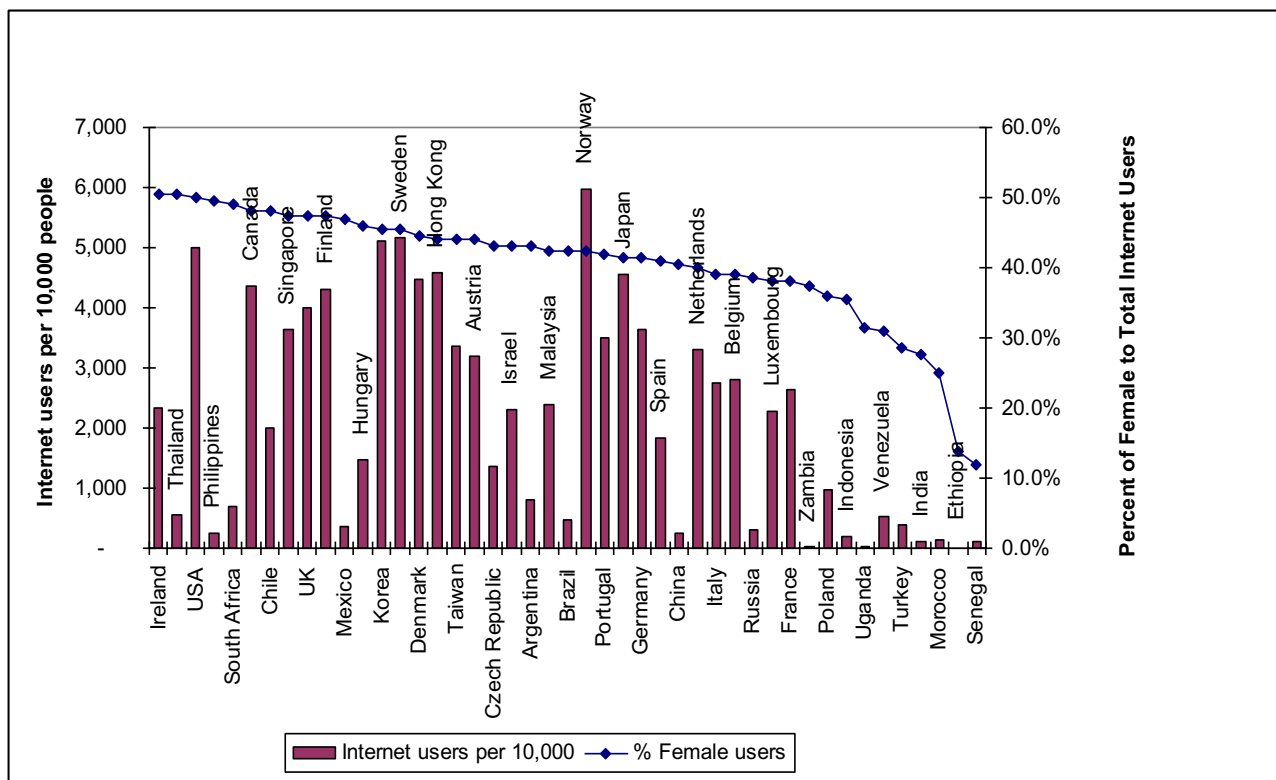
The power relationships that govern the relative positions and privileges of actors in the global information society were described in the previous subsection. This subsection looks at how gender inequalities are central to these power relations in the information society. Three core challenges for gender justice are discussed in detail: the structural barriers affecting women's access to new ICTs, women's status as workers in the information economy, and new ICTs and sexual violence.

2.2.1 Women's Access to the Internet

The gender divide within the digital divide can be seen in the lower numbers of women users of ICTs compared to men. One illustration of this is the number of women Internet users. The majority of the world's women do not use the Internet. They are excluded from the World Wide Web. The digital divide within countries broadly reflects the gender divide. Women are in the minority of users in almost all developed and developing countries (see Graph 4). The trend for differentiation in use starts early, as seen in the United States where boys are five times more likely than girls to use home computers and parents spend twice as much on ICT products for their sons as they do for their daughters (UNDP 1999: 62).

It is extremely difficult to get data on use by gender by country for developing countries (Hafkin and Taggart 2001). Also, statistics on Internet use need to be interpreted with caution. Even in the developing countries where women do make up a high percentage of users, total users themselves constitute a very small elite. Graph 4 below illustrates this – showing that in some cases where women make up a relatively high percentage of users, the total proportion of the population using the Internet is very small, as in the cases of Mexico, Philippines and Indonesia.

Graph 4: Total Internet users and female Internet users



Source: Huyer and Mitter, 2003.

2.2.2 Socio-cultural Barriers to Women’s Access

Women have reduced access to ICTs for a number of reasons, ranging from socio-cultural attitudes and preconceptions about women’s interaction (or lack of it) with technology to resource constraints. For the majority of women, specific barriers include illiteracy, unfamiliarity with the dominant languages of the Internet, absence of training in computer skills, domestic responsibilities, and the fact that the information delivered by ICTs is not that valuable to them. Infrastructure itself is also a gender issue: it is concentrated in urban areas and more women live in rural areas (Hafkin 2002a). Also, public ICT facilities have a great tendency to become men-only spaces, effectively inhibiting women’s access (see Box 5 below).

Box 5: Pornography in Internet Cafés

Many commercial public Internet access points are appearing in developing countries like India. However, in small towns and rural areas, these Internet facilities are typically entertainment joints, which men frequent for accessing pornographic content. Most often, the Internet café manager, usually a young male, is himself into surfing pornographic content, and the place serves as a hangout for his male friends. This is even true of some community telecentres set-up by non-profit organisations in India. Women and girls are obviously wary of going to such places for accessing the Internet. Additionally, gender insensitive management of many commercial Internet access points

poses the threat that personal email addresses of women and girls are accessed and used by boys and men to harass them.

The following are some socio-cultural factors that impede women's use of ICTs, particularly in rural areas:

- Cultural attitudes discriminate against women's access to technology and technology education.
- Women are less likely to own communication assets – radio, mobile phone.
- Women in poor households do not have the income to use public facilities.
- Information centres may be located in places that women are not comfortable visiting.
- Women's multiple roles and heavy domestic responsibilities limit their leisure time. Centres may not be open when it is convenient for women to visit them.
- It is more problematic for women to use facilities in the evenings and return home in the dark.

If the expected benefits of the extension of communication networks and access to a wider scope of information are to be realised, strategies that address the specific cultural context are needed to remove barriers to women's access (Marcelle 2000).

2.2.3 Gender in the Information Economy

Women have relatively little ownership and control of the ICT sector. While data is lacking, it is clear that women are underrepresented on the boards and senior management of IT companies, policy and regulatory organisations, technical standard-setting organisations, industry and professional organisations and within government bodies working in this area.

Women's participation as employees in the sector presents a more complex picture. The new economy rides on the power of ICTs. Job outsourcing is an important business strategy today and has given rise to a new global division of labour. Internationally outsourced jobs, such as medical transcription work or software services, have made a considerable difference to women's work opportunities in developing countries. In software, women enjoy opportunities on a scale that they never experienced in any other field of engineering and science (see Box 6 below). However, in the information technology sector, women make up only small percentages of managerial, maintenance, and design personnel in networks, operating systems, or software. According to UNIFEM, women hold 9 per cent of mid- to upper-level IT related jobs in engineering and make up 28.5 per cent of computer programmers and 26.9 per cent of systems analysts. Only among data entry workers do they form the majority at 85 per cent (UNIFEM 2000, in Huyer and Mitter 2003).

Box 6: The Knowledge-based Economy

'Women have entered high skilled jobs in information technology in developing countries. This has happened particularly in countries where national policies have promoted science and technology education and where young women entered these fields—in many cases in percentages far greater than in developed countries (Fatima Janine Gaio, 1995, Ng 1999). Countries where women have

made notable inroads into highly skilled work, such as software programmers or computer analysts, include Brazil, India, and Malaysia. In India, women occupy nearly 20 per cent of the professional jobs in the software industry, with higher percentages found in Calcutta and Bangalore (Mitter 2000). However, nowhere are these jobs the majority of those held by women in the workforce, nor are women the majority of workers in these occupations. The women working in these areas comprise a small, educated elite.'

Source: Hafkin and Taggart 2001.

Information technology has brought employment gains for women, but trends highlight many challenges. The ILO Report on Work in the New Economy 2001 makes the following observations about the IT sector:

- Patterns of gender segregation are being reproduced in the information economy where men hold the majority of high-skilled, high value-added jobs, whereas women are concentrated in the low-skilled, lower value-added jobs (Box 7 discusses this in detail.)
- As traditional manufacturing industries that previously employed women gradually disappear, the women finding jobs in the new, often ICT-related industries are rarely the same ones as those who lost their jobs in the traditional sectors. New inequalities are therefore emerging between women with ICT-related jobs skills versus those without.
- While teleworking has certainly created new employment opportunities for women, the downside is that women can be excluded from better career possibilities, and instead of finding a balance, family responsibilities are combined with paid work, so that women end up acquiring new tasks on top of the old.

Box 7: Gender Ideologies in Information and Communications Work

'While examining gendered processes of work within the ICTs sector it is useful and important to problematise the term "low-skill work" to understand how gender ideology operates within the ICTs arena. Certain kinds of work, historically performed by women, have come to be defined as "unskilled" (and therefore low-pay). Costanza-Chock (2003) highlights how.

- Effective call service often requires a great deal of performative or emotional labor, but such labor is naturalized as "inherent" to women and therefore undervalued.
- Recent studies of women working in call centers in Ireland and Europe found that, contrary to employers' rhetoric about skill development and flexible career advancement, women's info-work is routinized, deskilled, and devalued.
- Women in these centers rarely advance beyond "team leader" roles to managerial positions (Belt, Richardson, and Webster 2000, Breathnach 2002).

- Concerns about the exploitation of low-skill female workers familiar from other sectors (harassment and abuse by male managers, poor health conditions, control of wages by male heads of household) do not disappear in the information and communications sectors.
- New forms of gendered inequality are of particular concern in call services, where 3 out of 4 female call center workers report repeated sexual harassment over the phone (ILO 2001b).⁷

Source: Costanza-Chock 2003: 11–12.

Women have entered the ICT arena, claiming jobs that technology is creating. However, as Hafkin and Taggart (2001) argue, in order to retain and build upon the employment gains associated with globalisation and information technology, women need to move into more technical or higher-level, better-paying jobs. For this, they need access to the educational and training opportunities necessary to equip them for the rapidly changing skill requirements. Policy should encourage girls and women to use ICTs early in education, and pursue higher studies in ICTs as well as technical careers – as scientists, researchers, administrators and educators.

Women will also need to confront gender-based obstacles: the greater demands on them for the maintenance of household and family and the discrimination that women in all societies face within work environments. In addition to policies that ensure gender equality at the firm level, within the ICT sector, a strong role for state regulation of job security, insurance, maternity leave, and healthy and safe working conditions is vital for gender equality in the information economy.

2.2.4 New ICTs and Sexual Violence

The global entertainment industry, poised on the power of new ICTs, is a force beyond the grasp of law and regulation. The sex industry markets precisely the violence and oppression that feminists seek to eliminate from the streets, workplaces, and bedrooms (Jeffreys 1997). Pornography has assumed mammoth proportions with the Internet (see Box 8). The Internet has made sexual exploitation of and violence against women and children seem more normal, and this is a matter of deep concern. Criminal syndicates violate laws prohibiting sexual exploitation and violence by locating their servers in host countries with less restrictive laws, to avoid regulation. The new technologies have thus enabled the creation of online communities free from interference or standards where any and every type of sexual violence goes and where women-hating is the norm.¹⁰

Box 8: The Internet and the Sex Industry

The Internet as a Site of Violence

The Internet has brought in a revival of child pornography, which had more or less been eradicated in developed countries by the 1980s. Today, the business of both adult and child pornography arguably sustains the Internet. It has often been said that pornography is the only profitable entity on the

¹⁰ Berkman Center for Internet and Society, 'The Internet and the Sex Industry', see <http://cyber.law.harvard.edu/vaw02/>.

Internet.¹¹ Over the past ten years, the Internet has emerged as the premier forum of the international sex trade and has facilitated, accelerated, and normalised the sexual exploitation of women and girls. New ICTs have combined with racism, sexism, and capitalism to escalate sexual exploitation worldwide.¹²

The Internet as a Site of Resistance

The Internet was used as a means to form a coalition of activists when thousands of Internet users protested Yahoo's decision to sell pornography. In December 2000, Yahoo created an online store devoted to selling pornographic videos and DVDs. Just a few months later, after receiving over 100,000 emails from Internet users, Yahoo decided to remove the portion of its website that sold pornography and to stop accepting advertisements from pornographic websites. In May 2001, Yahoo decided to make it more difficult to find sexually explicit chat rooms and online clubs (<http://cyber.law.harvard.edu/vaw02/module4.html>).

While states often take a strong position against websites concerned with the rights of sexual minorities such as lesbians, gays, bisexuals and transgender people, Internet-based sexual violence is not seen as a priority for regulation. Balancing individual freedom and censorship within society is an old debate and the new ICTs have introduced additional challenges for feminists in this area.

This section looked at the power relations in the ICT arena and the gender dimensions of these. The promise of ICTs needs to be looked at in relation to the challenges and risks discussed in this section. Also, strategic interventions to address gender concerns in the ICT arena need to be grounded in this larger context. The report moves now to looking at the positive changes in social, economic and political domains effected by ICTs that take us closer to the goal of gender equality.

¹¹ 'Wall Street Meets Pornography', *New York Times*, October 23, 2000, <http://www.nytimes.com/2000/10/23/technology/23PORN.html>

¹² <http://cyber.law.harvard.edu/vaw02/module2.html>

3. Gender and ICTs: Mapping Change

From the point of view of equity and justice, the global architecture of ICT systems is far from ideal. This limits the opportunities to use ICTs for human progress on a global scale. The dominant forces driving the system are capitalism – profits, monopolistic trends, and corporate gatekeeping of the arena – and the patriarchal tendencies which go with these – the discrimination against, devaluing and exclusion of, and violence against women. However, in addition to the powerful corporate players, the ICT arena also has players who oppose these forces, using ICTs as catalysts for social transformation.

This section outlines how the promise of new ICTs may be potentially realisable. Examples of alternative uses of ICTs are given which inspire hope and suggest directions for challenging the dominant trends and creating a gender-just ICT arena. This section focuses on new ICTs, evaluating the opportunities and risks presented by new technologies. It looks at what is possible and what may need to be done if new ICTs are to be used for development and to support gender equality more systematically and on a larger scale.

3.1 ICTs as Tools for Women’s Right to Development

This subsection examines the role that new ICTs can play in supporting women’s right to development. It covers some key development priorities like livelihoods, health and education and looks at how new ICTs can be used towards these.

3.1.1 Livelihoods

New ICTs provide opportunities to reorganise economic activities in ways that can bypass the traditional dependence of women producers on male-dominated and exploitative market structures, including “middle-men”. In many places, initiatives are being tried that link women artisans directly to global markets through the Internet, as well as support their activities with market and production information (see Box 9).

Box 9: Examples of E-commerce Opportunities for Women

- ‘Knitting Together Nations’ (KTN) seeks to create sustainable employment for displaced women of all ethnicities throughout Bosnia-Herzegovina by selling and distributing hand-made fashion apparel and home furnishings globally through e-commerce and express delivery systems. (Global Knowledge Partnership 2003).
- Hipknit is an e-commerce project that markets online a wide range of custom-designed woollen clothing hand-knitted in Nepal. By marketing without the middleman, the Hipknit project gives

some of the poorest women in Thaiba a chance to work for a fair wage and gain economic independence (Digital Dividends, <http://www.digitaldividend.org>).

- In France, Les Pénélopes, a feminist association, has set up the 'Giving Visibility to Invisible Work' project to give similar support to migrant women in unorganised sectors (Global Knowledge Partnership 2003).

Though real gains from these initiatives may yet be limited, this first wave of attempts has been useful in exposing socially disadvantaged women to new opportunities. Although not an easy avenue, the possibilities for women producers to benefit from e-commerce do exist, provided organisational support is given for efficient enterprise management that meets the challenges of selling to a global market.

In addition to such Internet-based initiatives to cut out the middle-man, there are specific interventions targeting local markets. The 'Inter-city Marketing Network of Women Entrepreneurs' project in Chennai, India has set up a communication network among women's community-based organisations (CBOs) to market their produce. The CBOs are provided with cellular phones, and women have been trained to maximise the use of telephones for selling not only in their immediate neighbourhoods but also reaching new markets within the city. The impact is that poor women from CBOs constrained by pressures of time and mobility are able to assess and aggregate market demand by trading through their peer CBOs, and evolve cost-effective mechanisms to increase business turnover by making the most of business networking (Gurumurthy 2004).

Using new ICTs as knowledge and networking tools provides important economic and development opportunities. In Gujarat, India, women dairy producers use the Dairy Information System Kiosk (DISK), which manages a database of all milk cattle, provides information about veterinary services, and other practical information about the dairy sector.¹³ This information helps women producers maximise productivity and earnings. The use of ICT devices like PDAs (Personal Digital Assistants) and financial software applications in micro-credit activity is also being explored by development agencies and NGOs, to enhance women's economic opportunities.

Poor women have had nearly no opportunity to use ICTs as a tool for improving productivity of subsistence agriculture and for non-farm activities that address survival needs. Rural ICT interventions have not focused on this area and multi-stakeholder partnership models that seek to involve farmers often ignore women.¹⁴

3.1.2 Health

¹³ <http://www.digitalpartners.org/disk.html>

¹⁴ E-choupal is a much celebrated initiative of the multinational ITC. Their agriculture extension efforts in India, which seek to improve the productivity of agriculturists from whom ITC sources raw material, are based on the telecentre model. E-choupal has been critiqued for not involving low-caste farmers. Women are also not seen as intended beneficiaries of the initiative.

Old technologies are being successfully used in many places for information dissemination about health. In Peru, the Community Reproductive Health Project (REPROSALUD) uses radio soap operas developed under the direction of reproductive health educators to communicate information on women's sexual and reproductive health (Global Knowledge Partnership 2003). The Self Employed Women's Association (SEWA), a trade union of women workers from the informal sector in India uses video to convey basic health information to its women members. Women themselves have produced video footage on how to address diarrhoea through oral rehydration therapy, and they distribute this through their networks (see *Gender and Development In Brief* Issue 15 'Gender and ICTs' for more information on SEWA).

New ICTs can also play a critical role in health delivery. The use of networked information exchange systems¹⁵, and offline information tools like CD ROMs, databases and mobile ICT devices can enhance public health delivery. They can enable health education and information dissemination, bring communities and health facilities closer to each other through regular and systematic information exchange, and offer simple solutions for collecting and analysing information about disease and health-seeking behaviour to help health interventions become more locally relevant.

ICTs are being used in response to the crisis posed by HIV/AIDS. Grain Africa, a non-governmental organisation (NGO) in Kenya, is exploring setting up HIV/AIDS resource centres that use new ICTs to promote better access to AIDS advice, counselling, and test results without fear of being stigmatised.¹⁶

However, few ICT-based health information projects have targeted women users despite the fact that women are primary users of health information. One exception is the Association of Uganda Women Medical Doctors (AUWMD), which has begun a one-year pilot project aimed at disseminating information on reproductive health to women-oriented NGOs connected electronically, for use in advocacy. Four members of the association, having received training in basic email and Internet skills, download necessary information, repackage it, and send it to the NGOs online.¹⁷

The interactive possibilities of new ICTs have the potential to allow privacy, protect confidentiality, and provide varied and personalised choices in information. Thus, they can enable delivery of quality health information and advice at community access points in a locally adapted manner, and make access to information about health easier for women. These possibilities need to be integrated into viable health services for women.

3.1.3 Education

New ICTs in combination with old ICTs like satellite, radio and TV offer many possibilities for non-formal and continued education, which can have important gender implications. They can deliver

¹⁵ These are used between patient and medical staff, among specialists, doctors and paramedics and between hospitals, all of which are categorised together under the term tele-health.

¹⁶ From the database of Digital Dividends, <http://www.digitaldividend.org>.

¹⁷ See http://www.wougnnet.org/Documents/AUWMD/auwmd_sc.html.

education content to the doorstep, which, for women with constraints on mobility and access to public places, can be a significant starting point. Such combinations are being used the world over for open and distance learning.

Furthermore, new ICTs allow the process and content of education to be determined by learner preferences and priorities, thus opening up possibilities for designing and providing education in forms that are locally relevant. Azim Premji Foundation in India is among the few NGOs that work with the government to strengthen the public education system. The organisation produces CD ROMs of creative content based on the primary school curriculum, which is gender-sensitive, uses local dialects and is designed to appeal to rural students.

In many developing countries, computers are being introduced in schools as a tool to support the learning process. Research has shown that classrooms are not free from gender bias and therefore gender-sensitive planning of ICT interventions is a precondition to ensure equal access and effective use by girl students of computers in the classroom environment (see Box 10).

Box 10: Gender Differentials in Access to Distance Learning

World Links is a global learning network that links students and teachers around the world via the Internet for collaborative projects and integration of technology into learning. World Links commissioned a gender assessment study in 2001 aimed at determining if and how girls and boys are being impacted differently by the program. The research focused on male and female students in four African countries: Senegal, Mauritania, Uganda and Ghana.

The evaluation revealed that:

- In areas such as improved academic results and communication skills, girls have benefited more, while in the area of technological skills boys have benefited more.
- In areas such as knowledge about other cultures and attitudes about school, the impact of the programme is tremendous and is the same for boys as well as for girls.
- Even though much progress has been made in terms of gender equity in the programme overall, in some schools visited in Uganda and Ghana, girls do not enjoy equitable access to the computer labs.
- A variety of economic, organisational and socio-cultural factors explain this inequitable access. High student-to-computer ratios and first come-first serve policies do not favour girls who are typically heavily outnumbered by boys at the secondary level. Girls have earlier curfew hours and domestic chore responsibilities that limit their access time. Local patriarchal beliefs tend to allow boys to dominate the computer lab environment.

Excerpted from 'Women and ICTs for Open and Distance Learning: Some Experiences and Strategies from the Commonwealth.' <http://www.col.org/wdd/Women%20and%20ICTs.pdf>

In rural areas, telecentres with Internet and multimedia can, if set up in gender-sensitive ways, become places for girls to explore a comfortable relationship with computers, and use computers for learning. One-off experiments like the Seelampur initiative in Delhi, India, which focuses on girls from minority religious backgrounds in low-income communities, demonstrate a new way of learning made possible by the telecentre. Girls, otherwise constrained by patriarchal customs, are able to explore different information and communication possibilities with computers and learn things they like at their own pace.

3.2 Telecentres

Telecentres are community-based centres with ICT equipment. Also called information kiosks, telecentres have been used mostly in developing countries¹⁸ to deliver information and communication services. Great hope has been invested in telecentres as a way of enabling the poor and marginalised to benefit from ICTs. However, telecentres often fail to achieve this goal because attention is paid only to the hardware, and not to content of information or to the social context – a typical mistake in development interventions. This subsection focuses on how telecentres need to be designed to genuinely enable effective use by women.

Public access to ICTs is key for democratisation of access across gender and economic lines in developing countries. The costs of home use in poor countries, where charges are highest, are prohibitive for all but the wealthy. In Ethiopia, the costs of 20 hours of Internet connection amount to 849.1 per cent of annual GDP per capita. The rough US cost for equivalent service is 1 per cent of annual GDP per capita (Hafkin 2002b).

Careful assessment of the cultural context and of gender relations is a precondition for designing telecentre interventions to ensure women have equal access. In practical terms, this may translate into strategies that in one place mean recruiting women as managers of telecentres, and at others may mean women-only times or women-only spaces; it may require separate meetings and training for men and women and even making sure that “targeting” women does not alienate men and result in a backlash.

Caution needs to be exercised to avoid simplistic, formula-based interventions. (See Box 11 for a discussion of some myths about women and telecentres.) For example, field-level evidence shows that having women staff at telecentres does not automatically ensure greater access by women in the community. An evaluation of telecentres funded under the Acacia programme in Africa indicated that women consistently make up less than 1/3 of telecentre users even when female trainers and facilitators, and women-targeted training materials are made available. One of the primary determinants of women’s use of the centres was cost. Other factors included social and religious barriers, and scepticism regarding the value of ICT access (Thioune 2003 and Rathgeber 2002, in Huyer 2003).

¹⁸ Community access points are used as ICT access strategies for disadvantaged sections in many developed countries as well.

Vital to making telecentres relevant to women is the role of appropriate content that can help women leverage better economic, educational and other opportunities. However, evidence on the ground indicates that little attention is paid to content, and the emphasis tends to be on providing hardware to solve the technical problems of connectivity (Huyer 2003).

Box 11: Telecentres: Some Myths

Myth 1: If telecentres are available, they will be available to, impact and serve women and men equally.

Fact: Data indicates the contrary. Factors like heavy workloads and multiple roles that limit the time available to use a telecentre, male attitudes towards women's use of technology and to women visiting a mixed-sex public facility, the lower educational levels of women compared to those of men, and lack of disposable income for fee-paying centres, are among the factors that constrain women's use of telecentres (Hafkin 2002c).

Myth 2: There is a great deal of information available electronically; if only women could access the information, they could do so much to improve the situation of themselves and their families.

Fact: Experiences from across the world indicate that women are not using computer-based facilities at telecentres, but rather concentrate on using the telephone, fax and photocopiers. The key issues in fact concern "directed access" (assisting women to use ICTs to their advantage) and providing relevant content. Time and again, pilots have demonstrated that women can pick up basic computer skills and also skills in information search and retrieval, with some initial assistance. The deciding aspect though is the value-addition of ICT-supported content. Repackaging and augmenting information (downloading, simplifying, translating and adapting information into local languages), and documenting and uploading local-origin information, are critical steps for enhancing relevance and therefore use of telecentres. How women and men are involved in community-based processes to determine what is useful, and how women's indigenous knowledge and their concerns, interests and rights are factored into the production and dissemination of content is what will contribute to transformation, particularly of gender relations.

Another key aspect is that where telecentres also provide electronic interfacing with other institutions, then the systems and processes between the community and these institutions need to be robust. A poor woman who submits a petition or a pension application through the telecentre to local authorities is not likely to come back unless her application is responded to. This implies connectivity not merely in technological terms but streamlined human processes that make connections between the community and the outside world fruitful.

Myth 3: If telecentres have to be economically sustainable, it is not possible to design interventions for the marginalised, including poor women.

Fact: New ICTs are remarkably amenable for addressing aggregated demands at the community level; they are versatile enough to meet not only the diverse needs of various social groups but also

the range of demands of every individual in a community. Successful pilots have demonstrated that a diversity of models can be adopted to viably address the information and communication needs of the entire community. Telecentres need not be isolated information stations, but rather can form part of existing facilities and institutions – health centres, schools, libraries and community centres – that provide a mix of services and potential cost structures based on cross-subsidisation.

The fundamental issue in reaching poor women is not one of profitability of models, but the creation of a set of technology-mediated services and products that allow women to be part of emerging opportunities. Efficient business models will follow effective technology models. A lopsided focus on financial viability in discussions around telecentres has resulted in the undermining of a committed focus on the transformatory and development capabilities of ICTs (Gurumurthy and Sarkar 2003).¹⁹ The private sector does not have the incentive to reach the marginalised and where information relevant to the marginalised is to any degree delivered by the private sector, the telecentre has been treated purely as an information shop accessed rarely and randomly by the marginalised and not as a potential force for change. Governments and NGOs trying to harness ICTs need to view the economics of telecentres within frameworks of justice and equity. Public information delivery has to be guided by the cornerstone of accountability rather than of profit. Initial investments required to set up a telecentre will start paying off when information begins to have positive influences on the community – in terms of economic well-being as well as transformation in social relations at community and household levels – as women and the poor start leveraging information and communication resources.

3.3 ICTs as Tools to Challenge Gender Inequality and Promote Women’s Empowerment

New ICTs have been used by women’s organisations for challenging gender inequalities and empowering women in many different ways. These are discussed here.

3.3.1 Networking and Advocacy to Promote Gender Equality

New technologies have made it possible for people to communicate, network and collaborate on a more global scale than was previously possible. Alliances have been built between the local and global.

For individual men and women, the Internet has been a space that allows both for anonymity and solidarity, for self-expression and for building connections. ICTs have also facilitated the building of a more inclusive public sphere – allowing the aged, the disabled and the discriminated to communicate, to network and also to reach policy-makers. Particularly for sexual minorities, the Internet has provided subversive territory to assert their identity and lobby for their human rights. Networking can also enable women’s organisations to mobilise international public opinion against discriminatory and unjust actions at local levels. For example, the Asian Human Rights Commission emailed many

¹⁹ <http://www.itforchange.net/resources>

progressive women's rights groups about "honour" killings in Asia and posted reports of these on their websites.

For the global women's movement, the Fourth World Conference on Women at Beijing was a watershed. Key players like the Association for Progressive Communications – Women Networking Support programme (APC WNSP) in Asia Pacific, FEMNET in Africa, the Network of East-West Women for Eastern and Central Europe, La Neta, the Women's chnProgramme (*Area Mujeres*) of the *Agencia Latinoamericana de Información* (ALAI) in Latin America, and the Asian Women's Resource Exchange (AWORC) mobilised around the Conference have since been at the forefront of promoting women's rights through strategic use of ICTs at regional levels (Wood 2000; Hafkin and Taggart 2001). Information sharing and dialogues through email, online newsletters and List Serves between women from the North and South and among women in the South have also enabled collaboration on a global scale to push the agenda of gender equality.

Of particular interest to the cause of gender equality are the advocacy efforts of groups of men. The White Ribbon Campaign in Canada, initiated by a group of men, among other strategies, uses the Internet, CD ROM and printed materials to mobilise men to condemn violence against women (<http://www.whiteribbon.ca>).

3.3.2 E-governance and Women's Access to Public Information

The use of ICTs in governance has set the stage for greater transparency and the possibility for greater citizen participation. E-governance is a term used to describe, among other things, the use of ICTs to improve government interaction with citizens. Potentially, e-governance marks the shift towards greater access by citizens to public information and services, and, within developing country contexts, to information about development programmes and schemes particularly for the marginalised.

E-governance has been used by governments to strengthen their electoral and legislative systems, improve access to justice and public administration, and improve capacity to deliver basic services. In developed countries, the use of the Internet for public service delivery is widespread. In developing countries, where connectivity is poor, community-based approaches to delivering public services are being explored. In isolated instances, women's participation has been a part of the design of e-governance. For example, in Central America, an action research project is being conducted with women's organisations in Costa Rica and Nicaragua, and groups of women are being empowered with the help of ICTs to engage with public policy. The research points to how information normally produced for public administration may be difficult for women to understand since it is not generated with the citizen in mind (Martinez and Reilly 2002). E-seva, an e-governance initiative in South India, is among the few initiatives where women's collectives are also being seen as playing the role of information intermediaries at the community level, linking people with the state machinery. Women are trained to be managers of e-seva centres and their participation in public life is seen to be enhancing their social status.

However, women, and poor women in particular, may find it difficult to overcome social barriers and benefit from e-governance initiatives (Acharya 2003). Also, many e-governance initiatives focus only on administrative efficiency and fail to take off as platforms for active citizen-state interaction. This means that at best such efforts cast women as consumers of information and not stakeholders in development. At worst, they completely overlook women's needs to engage with public policy and programme implementation.

3.3.3 Capacity-building of Women

Several organisations are building the capacities of girls and women to make new ICTs accessible and useful to them. At one level, girls and women are being provided general training in ICTs for ICT-related jobs; at another, women in business, women entrepreneurs and women in the professions, are systematically being supported for skill enhancement, career growth and greater work efficiency.

Targeting women in situations where their access to ICTs is limited is a necessary and useful way to ensure that they are equal beneficiaries of technology. In Afghanistan, in conjunction with the Women's Affairs Ministry, the United Nations Development Programme (UNDP) has opened the first in a series of computer training centres targeted towards women. The first courses offered by the centres will teach basic accounting and word processing skills to government and NGO employees (Abirafeh 2003).

The WIRES project (<http://www.ceewauwires.org>) targets women entrepreneurs in small-scale businesses in three places in Uganda addressing the need for entrepreneurial information repackaged in simple, ready-to-use formats, preferably in local languages. Through the programme, women have been able to access ICTs and obtain information on markets, prices, credit services, and trade support services.²⁰

With the help of ICTs, capacity-building of women in decision-making structures, especially in government, can bring unprecedented gains for women. The Women Mayors' Link, an initiative of the Stability Pact Gender Task Force (SP GTF), is a project developed in the 12 countries and territories of the Stability Pact (SP) Region in South Eastern Europe. The network, which largely communicates through email, has been established to strengthen women mayors' leadership skills, for cooperation between women mayors and local women's networks in designing projects to improve the quality of life of women and children in local communities, and for a regional and international exchange of best practices in similar projects.²¹ These initiatives need to be replicated elsewhere.

Capacity-building in terms of IT skills can also help NGOs working with women to become more effective. The WENT (Women's Electronic Network Training Workshop) programme has been facilitated by APC WNSP since 1999 and seeks to better equip women's NGOs in the Asia-Pacific

²⁰ From the database of Digital Dividends, <http://www.digitaldividend.org>.

²¹ See wml.sef.ro/about.php.

region to use new ICTs in their work. This strategy of “enabling the enablers” both contributes to the effectiveness of NGOs at local levels, and also diversifies and democratises online spaces.

UNIFEM Arab States Regional Office also teamed up with the Jordanian government, Cisco Foundation and Cisco Systems, Inc. to build women’s technical and professional capabilities. The intention was to give women enough of an edge to compete effectively in a male-dominated ICT market, and to enable them to secure stable, well-paying jobs. The goal is to train women to design, build and maintain computer networks and provide them with the skills required to mainstream them in diverse ICT applications.

3.3.4 Dissemination of Rights-based Information for Women

New ICTs have been used by gender equality advocates the world over for putting out rights-based information. From multilateral agencies like UNIFEM to feminist activists at local levels, actors at different levels are involved in creating, collating and disseminating material on rights – legal rights, sexual and reproductive rights, women’s human rights. This is done through websites, e-magazines and email. In many developed countries, websites provide assistance to women seeking help on domestic violence. For instance <http://www.ndvh.org> provides helpline information concerning domestic violence for different states in the US. Femmigration (<http://www.femmigration.net/>) runs a web-based information, support and complaints service to help women migrants to the EU who may be tricked into prostitution and other sexual abuse (Global Knowledge Partnership 2003).

Many NGOs worldwide use ICTs to disseminate information and to contribute to the debate on gender equality and rights. However, access to platforms on the Internet that shape the rights discourse and to rights-based material depends on many factors. As discussed in previous sections, the majority of women in the world do not have access to new ICTs due to barriers of infrastructure, society, culture and language. While it may be necessary for the progressive elite to mediate information dissemination, real democratisation of information depends on making new ICTs relevant to the majority and accessible to every woman.

Today, print media and radio are used extensively by feminist groups for information dissemination. New ICTs can strengthen these media strategies. Community access points such as telecentres can be a simple tool for conveying information to women that supports their social and political empowerment. Telecentres need to be used as strategic spaces where information on the law (e.g. violence, religious law), on worker rights (e.g. minimum wages), and citizenship rights can be obtained. Educational institutions, especially in urban areas where connectivity and computer equipment are less of a problem, need to make offline and online information on rights available. Governments and NGOs have to take a lead in this process of universal access to rights-based information, especially in rural areas.

3.3.5 ICTs as Amplifiers of Women’s Voices and Perspectives

ICTs can provide spaces for diverse, bottom-up and low-cost communication. They can amplify women's voices, and help publicise women's experiences and perspectives. The project of gender justice requires that mainstream spaces be infused with new worldviews that derive from women's own experiences and challenge, qualify or expand accepted ideas.

In the Deccan Development Society, in South India, socially disadvantaged women have used radio and video to document and disseminate traditional farming practices, to reach policy-makers, and to archive their community-based development work. Such development activities in fact have deeper meanings; they reflect the recording by women of their own history and reclamation of their knowledge (Pavrala 2000).

Feminist academics and scholars have used the Internet to publish perspectives that concern a range of issues. The web presence of networks like Development Alternatives with Women for a New Era (DAWN) <http://www.dawn.org.fj> go a long way in enabling social activists obtain informed feminist perspectives on critical development and human rights issues.

This section took the reader through the efforts to bring about positive change in the gender and ICTs arena. Subsections about development and empowerment outlined the possibilities for deploying ICTs towards equality and justice. The following and final section looks at future directions for building on such efforts.

4. Engendering the ICT Arena – Future Directions

Where women have used ICTs for their own purposes, they report increased knowledge and self-esteem. This seems to be almost universally true for different socio-cultural contexts – from China to Ethiopia, from Peru to India. (Hafkin 2002c, Gurumurthy 2004). This empowering process has the potential to destabilise existing gender relations. However, an enabling environment is a must if women are to enjoy equal access to the benefits of ICTs. The ICT arena needs to be engendered through gender-sensitive ICT policy and programmes, designed and implemented creatively for optimum effectiveness. Gender equality advocates have a critical role in providing leadership and perspective to these processes. This concluding section looks at all these aspects in detail.

4.1 Need for a Gender-sensitive Policy Environment

Addressing gender in policy and programme intervention is imperative because, even with improved communications and networking infrastructure, women are likely to be bypassed. However, very few government initiatives at policy and programme levels actually address gender issues within the ICT arena. Some exceptions are the Republic of Korea, which has established a proactive ICT policy towards gender equality in its Basic Plan for Women's Informatization (2002–2006), and South Africa, where the Telecommunications Act includes provisions to redress gender imbalance and other areas of disadvantage. However, even in South Africa, implementation has fallen short on gender impact (Hafkin 2002a).

A study commissioned by ESCAP in 2001, to map regional ICT policy framework and legislation from a gender perspective, found that gender equality goals were absent in national policy frameworks and strategic plans (Ramilo 2003). Also, governments are still unclear about the connections between ICTs and the different elements of social and economic policies. Engendering policies concerning ICTs and their access also means addressing gender issues in education, health, telecommunications, infrastructure and rural development policies so that ICTs can enable outcomes that are gender equal.

The Task Force on Gender Issues set up by the ITU (Jorge 2001) observes:

It has been clear from years of experience that so-called gender-neutral policies or rules are not enough. The evidence lies in the facts: women are vastly under-represented in government, business, political and social institutions; men still hold most of the management and control positions in telecommunication companies and regulatory or policy making bodies; regulatory decisions are made without any impact analysis; service licenses are attributed to companies without equal opportunity policies and controlled mostly by men.

See Box 12 for guidelines proposed by the task force.

There is an urgent need for governments to build ICT policy with a strong gender perspective, to devise strategies with clear goals, and to put in place legislative and administrative measures to ensure these are achieved. Policy needs to cover universal access, regulatory frameworks (including privacy and security), licensing, tariffing, spectrum allocation, infrastructure, ICT industry development and labour issues (Hafkin 2002a; Anand and Uppal 2002), and draw upon available expertise, frameworks and tools that provide relevant guidelines.²²

Most policy-making processes that have aimed at multi-stakeholder participation at international and national levels have been dominated by the private sector among the non-government stakeholders. Governments need to set up mechanisms for ongoing consultation with “gender and ICT” experts, allow broad-based participation of women’s groups, and account for diversity to enable genuine multi-stakeholder involvement. Different ministries also need to be involved in the policy-making and implementation process. National governments may also require the support of multilateral development agencies and donors in the policy-making process.

In global fora, gender advocates have faced resistance while lobbying for gender equality in policy documents concerning ICTs. Inclusion of certain gender concerns is increasingly countered by many governments, particularly from the North, because the issue is seen as implying the regulation of the media. This was evident in the WSIS process when the recommendation by gender advocates for including a reference to ‘fair and respectful portrayal of women’ was not agreed to. In a repeat of the advocacy processes during Beijing+5, the US delegation made it part of their Reservation statement that nothing in the document could be considered binding on the media (Burch and Leon 2000). However there may be a place for both appropriate regulation by government as well as for encouraging ISPs to undertake self-regulatory efforts against pornography, trafficking and all forms of gender-based violence online by re-examining their editorial and user policies from a gender perspective.

Within the broad topic of gender and telecommunications/ICT, there are a number of areas where sex-disaggregated statistics and indicators would be useful (Hafkin 2003).²³ These include access and usage, content, employment, education, consideration of gender issues in ICT/telecommunications policy, representation in telecommunications/ICT decision-making and impact of telecommunications/ICT on men and women. The problem is that sex-disaggregated statistics are not available. It will be important for the ITU to assume leadership in bringing all member states to an awareness of sex-differentiated data in all their telecommunications/ICT data collection efforts, particularly in household and enterprise surveys (Hafkin 2003).

²² Several useful documents for governments may be found on the ITU website. See <http://www.itu.int>.

²³ Korea is doing substantial and interesting work on gender and ICT statistics. Since the first quarter of 2000, the Korean Network Information Center (KRNIC) (<http://www.krnice.or.kr>) has undertaken and published quarterly surveys of Internet use, averaging 5,700 users, with over 20 categories of data collected and disaggregated by sex and in most cases age.

The ITU task force has produced guidelines for gender-sensitive policy-making (see Box 12 below). These can be used in two ways: 1) as a checklist of issues to consider when making decisions; and 2) to provide ideas on how to mainstream gender in regulatory and licensing agencies.

Box 12: Gender-aware Guidelines for Policy-making and Regulatory Agencies Recommended by the ITU Task Force on Gender Issues

General

- Facilitate and promote the establishment of a Gender Unit within the Regulatory Agency, the Ministry and/or as an inter-agency effort.
- Review, revise or develop new regulations, circulars, issuances and procedures to remove any gender bias.
- Promote gender analysis as part of the policy process.
- Develop and establish systems to gather gender statistics.
- Promote dialogue with other national entities like other ministries, regulatory bodies, etc.

Human Resources

- Ensure equal hiring opportunities for all women and men, regardless of race, ethnicity, class and age.
- Ensure that a certain percentage, targeting 50 per cent, of all supervisory and management positions are occupied by women.
- Develop campaigns to attract women professionals (particularly for technical and decision-making positions).
- Develop and ensure the existence of appropriate support systems for professional women and men.
- Ensure that there are no wage disparities between the genders and establish a policy to eliminate any such gaps.

Training

- Ensure equal access to training opportunities.
- Promote gender-awareness training opportunities for women and men.
- Support technical and management programmes that train women professionals and create internship programmes with educational institutions.

Licensing Activities

- A certain percentage of licences should be awarded to woman-owned companies and/or companies with women in top management positions.
- Develop and market licensing procedures where potential women owners can have access to the information.
- Promote the development of business assistance programmes and partnerships with expertise in assisting women entrepreneurs.

- Develop licence award criteria based on social responsibility of the business as well as universal access objectives of the proposed venture.
- Ensure that licences awarded contain certain conditions to promote gender analysis and mainstreaming for the particular company.

Source: Jorge 2001.

4.2 Need for Advocacy towards Gender-sensitive ICT Policies

Gender equality advocates need to be involved in the range of issues concerning the information society, expanding their domains of expertise with respect to ICTs. The information society debate, for instance, has opened unprecedented avenues for discussing the right to communicate. Sections of civil society have criticised trends in the media of monopolisation and commercialisation (Kuhlen 2003). The debates about traditional knowledge systems, using knowledge for development and rewarding knowledge production equitably, are central to the information society. These concerns affect struggles for gender justice inasmuch as they include a search for ways to build new democratic forms of media where every individual has the right to participate and be taken seriously. However, while gender advocates talk about women's traditional knowledge and bio-piracy, many are not able to see that these issues are on the continuum that concern intellectual property, corporate monopolies, and the ethics of the public domain, including knowledge sharing and newer concepts like General Public Licensing²⁴ (GPL).

The civil society essential benchmarks for WSIS²⁵ cover a range of issues that gender advocates – scholars, academics, activists, writers and lobbyists – have considerable expertise on. These range from themes such as sustainable development, poverty reduction, human rights, and cultural diversity, to media and democratic governance. However, the WSIS platform has seen limited participation by feminist actors from the South. In the WSIS process towards and at Geneva, much of the discussion around gender was largely reduced to adding gender as a necessary ingredient (whether in community projects or in policy documents), rather than using it as a perspective that allows a critique of power and control over resources. The second phase of WSIS to be held at Tunis in 2005 represents an opportunity for a more active involvement of gender advocates in a more inclusive consultative process, a strong framework of gender equality for the information society, and for voicing alternatives to the dominant neo-liberal model of corporate control of information and knowledge.

²⁴ The GNU General Public License (GPL) was designed by the Free Software Foundation (FSF) – a non-profit institution that was established to promote the publication of free software. The GPL is used by programmers who want to give others the right to copy and modify the source code of their programs. The concept is also extended to written documents.

²⁵ See http://www.worldsummit2003.de/download_en/CS-Essential-Benchmarks-for-WSIS-14-11-03-final.rtf.

4.3 Gender concerns in Project Planning and Implementation

It is nearly impossible to find a project without gender issues (Hafkin 2002c). Therefore, gender issues should be dealt with explicitly from the early stages of project design. If they are added in hindsight or as a midterm correction, results may be sub-optimal (World Bank 2004).

Broad guidelines on what does and what doesn't ensure gender equality in project outcomes are available in research and the documentation of projects worldwide. Some of these are presented below.

- **Enable women's participation, and build gender awareness among women and men participants.** Engendering projects requires participatory processes that involve men and women in the community, inputs from gender experts and organisations that work on gender issues and gender sensitisation of project staff.
- **Expand opportunities for women beyond the stereotypical roles.** Cabrera-Balleza (2003) points to how gender dynamics and power relations that exist in public and corporate media are also present in community radio. She argues that it is necessary to examine how women are defined, depreciated, and excluded in the media production process and in decision-making in community radio initiatives. Gender stereotyping in terms of assignments and tasks is not uncommon – many times it is the women broadcasters who deal with programmes on family, health, and nutrition while the “heavier” discussions on politics, economy or general community affairs are conducted by men. This, in effect, is a reiteration of the premises of unequal gender relations. Women technicians are also still a minority. Women are not prioritised in training on technical production nor given opportunities to experiment with the technologies and self-train.
- **Use appropriate technology.** Successful information and communication technology projects do not only have to use high-end technology when addressing gender issues. Making judicious use of available, affordable technology and using technology mixes can have a much greater impact than using the latest technology for its own sake (Huyer, 2003). Also, innovations that use effective/high-utility but low-cost technologies²⁶, shared infrastructure, public access facilities and the use of intermediaries (like NGOs) to interact with the disadvantaged, may be most appropriate, especially for poor women.
- **Develop content which is both locally relevant and challenges local stereotypes.** Localising generic information (through local language), augmenting content for local application, and creation of content based on local needs are non-negotiable in making the Internet relevant to non-elite populations, including poor women. Priority needs to be given to content that is developed by women and reflects their knowledge and perspectives, and which helps them with their immediate survival needs, aspirations, their well-being, and that of their families. Attention must also be paid to strategic content in areas such as women's reproductive health, rights and

²⁶ These are technically referred to as “disruptive” technologies.

awareness. Gender equality advocates need to get into content production. Unfortunately, stereotyped notions of gender roles form the basis of content development in many community projects; for instance, health-related information may be targeted at women, and market-related information, at men. Such discriminatory approaches may be justified by project planners as a response to what women have explained as their needs, but they are also a missed opportunity to use ICTs for transforming traditional gender roles and exploring the possibilities of social reengineering.

- **Look at who in the community is benefiting.** The socio-cultural context in which gender relations are set is of great significance. Where women's participation in the public sphere is governed by restrictive traditional norms, community-based access points (like telecentres) may not necessarily imply effective use by women. The community usually becomes a euphemism for the elite, and the socially disadvantaged do not benefit at all (Saith 2002). In an agriculture extension project in India, where ICTs are being used, reports indicate that "villagers" use the kiosk for information pertaining to agriculture – such as market prices, training and capacity-building programmes offered by the government and others. However, reports do not furnish sex-disaggregated data. In fact, what can be a huge asset for women farmers may end up as a "community" asset benefiting elite men, given access barriers that women face (Gurumurthy 2004).
- **Enable marginalised women to create content.** By and large, demonstration projects to test out the potential of new ICTs the world over have focused on connectivity and the hardware dimensions of delivery mechanisms. The path for the future is to get into an "upload" mode by creating relevant applications and content; ICTs need to be shaped to be of value to women, particularly poor and rural women.
- **Build women's capacity broadly – not just technical skills.** Successful projects in developing countries show that economic benefits from ICTs depend on capacity-building of women. This should not be restricted to the use and operational aspects of ICTs, but must also: develop locally relevant content; set up enterprises – ICT and ICT-aided; use the Internet for communication and networking; promote advocacy; build linkages with local institutions; and integrate poor women's economic activities with local and global markets.²⁷ Governments and the donor community will need to support the scaling up of such successful models.
- **Use ICTs for both political and economic empowerment.** ICT deployment for economic empowerment at community level has received greater resources than have innovations which address the social and political aspects of gender relations. Even e-governance projects, which can be conceptualised as a vehicle for social change and women's empowerment as well as public accountability, are typically deployed as an efficiency mechanism for easier administration. ICT approaches need to be adapted and put to use for transforming gender relations.

²⁷ The women's trade union SEWA, in Ahmedabad, India, is an excellent example of an organisation that has used this type of multi-pronged strategy to maximise gains from ICTs.

- **Look at impact.** Despite the consensus about the potential of ICTs for enhancing women’s status, very little documentation exists about the actual impact of the numerous projects that have attempted to address these issues. We still do not have adequate data on whether and how building women’s communities’ online, online discussion forums, providing content with a gender perspective, and designing gender-sensitive community-based projects have actually made an impact on gender stereotyping and gender roles. Research on the impact and how to measure it is needed. It is necessary to use scarce resources effectively. It is important that ICTs be used such that they multiply the value of investment in development and empowerment, rather than distract from more urgent needs (See the *Supporting Resources Collection* of this Cutting Edge Pack for tools for monitoring and evaluating ICT initiatives).

The preceding sections have discussed the need for both appropriate policy and effective project design and implementation. Gender-equal outcomes depend on coordination between policy, strategy and implementation. Table 3 summarises the key considerations in each area.

Table 3: Key issues to Consider for Gender-equal Outcomes in the ICT arena		
ICT Dimensions mediating Access/Use	Inclusive Strategies for Equitable Access/Use	Some Dimensions for Gender-sensitive Design
Policy and Regulatory Frameworks	A balance between promotion of private ICT investment and strategies for addressing needs of low-income customers in policy, entailing promotion of public investment where required; risk-sharing with private investment; enforcement of Universal Service Obligations as licence conditions.	Gender representation at all levels of policy and decision-making; specific attention to rural areas; positive discrimination in training and capacity building for women; gender disaggregated statistics, analysis and evaluation mechanisms.
	Where appropriate, strategic use of ICTs in social sector policies like health, education, and governance for wider, deeper and more locally adapted reach of services.	Distinct goals and strategies with regard to girls and women in each sector, involving them as key actors and not only as beneficiaries.

Technology/ Business Architecture	Technology mixes tailored to context for maximum value delivery at low costs	Wireless connectivity, mobile telephony, open source software, multi-media, graphic/voice interface, offline applications.
	Viable business models that deliver affordable services, employing principles of sharing and aggregation.	Multi-service delivery models with an offline-online mix; telecentres as community access points; human interface, preferably with women managers at service delivery points; and piggybacking on existing facilities and institutions.
Content and Process Design	Information and communication delivery critical to basic needs, aspirations and rights of people, especially of socially disadvantaged.	Gender-specific content; participation of women in process and content design; content in local language specific to local culture; taking into account cultural factors impacting women's access to community areas; processes streamlined to account for women's situation and needs.
	Adapt content and process to the local context.	

4.4 Concluding thoughts

Engendering ICTs is not merely about greater use of ICTs by women. It is about transforming both gender politics and the ICT system. It is evident that the ICT system is organised on elitist, patriarchal, techno-centric, non-democratic lines and based on capitalist values. Transformatory gender politics will need to question these values and search for ethical alternatives. This calls for synergy between a new bottom-up culture of ICT production and use and the reengineering of the global ICT system that will guarantee sustainable changes towards gender equality. Addressing the ICT arena is part of a larger struggle to build an information society based on protecting people's right to communicate, own and use knowledge for their own ends, and resisting curtailments on freedom to use, share and modify information tools and content.

A more inclusive, democratic and gender-just information society is possible only if the multiple actors in the ICT arena commit to work in coordination, cooperation and collaboration. Developing a shared vision of a world information society that contributes to human development based on agreed principles including women's human rights, is a long-term undertaking. Strategic wisdom needs to inform future action, particularly in the renegotiation of gender relations through ICTs. A dual strategy of gender mainstreaming and targeted intervention, as laid out by the Beijing Declaration and the Platform for Action, is needed. Effective interventions call for sustained commitment from women and men within the ICT arena, and outside.

Policy and programmes should be seen not as one-time interventions, but as processes which allow learning from trial and error, and create spaces for the engagement of different social groups. Civil society actors, including NGOs and CBOs committed to gender equality, need to build their own capacities, develop perspectives, lobby with government and business, participate in national and international ICT policy-making processes and build constituencies among a wide cross-section of society on the role of ICTs for the promotion of gender equality.

The road ahead offers great possibilities. Gender equality advocates need to storm the ICT arena in the same untiring ways that we have seen them employ before.

References

- Abirafeh, L., 'Afghan women: one year later – creating digital opportunities for Afghan women', <http://www.developmentgateway.org/node/134111/sdm/docview?docid=427938> (accessed 28 April 2004)
- Acharya, K., 2003, 'Flaws in Bhoomi, India's model e-governance project', Pune, India: Infochange India, <http://www.infochangeindia.org/features120.jsp> (accessed 27 April 2004)
- Anand, A. and Uppal, M., 2002, 'Engendering management and regulation of ICTs: narrowing the digital divide for women', *UN/INSTRAW Virtual Seminar Series on Gender and ICTs*, Seminar Three: Engendering Management and Regulation of ICTs, 29 July – 9 August, http://www.un-instraw.org/docs/gender_and_ict/Annand.pdf (accessed 28 April 2004)
- APC WNSP, 1995, 'Gender and information technology: The right of women to have equal access to computer communications technology and networks', proposal of APC WNSP to the Fourth World Conference on Women, <http://www.apcwomen.org/resources/policy/gender-ict-unwcv.html> (accessed 28 April 2004)
- Belt, V., Richardson, R. and Webster, J., 2000, 'Women's work in the information economy: the case of telephone call centres', *Information, Communication, and Society*, Vol. 3 No. 3, 366–385
- Bidwai, P., 2003, 'India: reality check on IT – masters or cyber-coolies?', <http://www.apnic.net/mailling-lists/s-asia-it/archive/2003/07/msg00027.html> (accessed 28 April 2004)
- Breathnach, P., 2002, 'Information technology, gender segmentation and the relocation of back office employment: the growth of the teleservices sector in Ireland', *Information, Communication, and Society*, Vol. 5 No. 3, 320–355
- Burch, S. and Leon, I., 2000, 'Directions for Women's Advocacy on ICT: Putting New Technologies on the Gender Agenda', in P. Villaneuva (ed.), *Networking for Change, The APCWNSP's First 8 Years*, Philippines: APC Women's Networking Support Programme, <http://www.apcwomen.org/netsupport/sync/toolkit2.pdf> (accessed 10 May 2004)
- Cabrera-Balleza, M.V., 2003, 'Women and community radio: opportunities, challenges, and responses', paper presented at the Community Media Forum, 12 December 2003, Geneva: WSIS
- Chandrasekhar, C.P., 2003, 'Promoting ICT for human development in Asia: realizing the Millennium Development Goals, India Country Paper', for Regional Bureau for Asia and the Pacific, UNDP

Costanza-Chock, S., 2003, 'Data slaves: low-skill infowork in US prisons', thesis presented to the Faculty of the Annenberg School for Communication in partial fulfilment of the requirements for the Degree of Master of Arts

Digital Dividend website, <http://www.digitaldividend.org> (accessed 28 April 2004)

Gaio, F.J., 1995, 'Women in software programming: the experience of Brazil', in S. Mitter and S. Rowbotham (eds), *Women Encounter Technology, Changing Patterns of Employment in the Third World*, London: Routledge

Gajjala, R., 2002, 'Cyberfeminist technological practices: exploring possibilities for a women-centered design of technological environments', *UN/INSTRAW Virtual Seminar Series on Gender and ICTs*, Seminar Two: Women and ICTs: Enabling and Disabling Environments, 15–26 July 2002, http://www.un-instraw.org/docs/gender_and_ict/Gajjala.pdf (accessed 28 April 2004)

Global Knowledge Partnership (GKP), 2003, 'Youth, poverty, gender: ICT for development success stories', *Knowledge for Development* series, Kuala Lumpur: GKP Secretariat

Green, L. and Trevor-Deutsch, L., 2002, 'Women and ICTs for open and distance learning: some experiences and strategies from the Commonwealth', Vancouver: The Commonwealth of Learning (COL), <http://www.col.org/wdd/Women%20and%20ICTs.pdf> (accessed 28 April 2004)

Gurumurthy A., 2004, *Bridging the Digital Gender Divide: Issues and Insights on ICT for Women's Economic Empowerment*, New Delhi: UNIFEM

Gurumurthy, A. and Sarkar, R., 2003, 'Poverty alleviation through tele-centre initiatives', Bangalore: IT for Change, <http://www.itforchange.net/resources/Pat.htm> (accessed 28 April 2004)

Hafkin, N.J. 2003, 'Some thoughts on gender and telecommunications/ICT statistics and indicators', paper presented at the 3rd World Telecommunication/ICT Indicators Meeting, Geneva, 15–17 January, <http://www.itu.int/ITU-D/pdf/5196-007-en.pdf> (accessed 28 April 2004)

— 2002a, 'Gender issues in developing countries: an overview', paper presented at the United Nations Division for the Advancement of Women (DAW) Expert Group Meeting on Information and Communication Technologies and their Impact on and Use as an Instrument for the Advancement and Empowerment of Women, Republic of Korea, 11–14 November 2002

— 2002b, 'Challenges and opportunities for women in telecenters; summary of Gender and the Digital Divide Seminar', 7 March <http://www.worldbank.org/gender/digitaldivide/march7summary.htm> (accessed 28 April 2004)

— 2002c, 'Are ICTs gender-neutral? – a gender analysis of 6 case studies of multi-donor ICT projects', *UN/INSTRAW Virtual Seminar Series on Gender and ICTs*, Seminar One: Are ICTs Gender Neutral?, 1–12 July 2002, http://www.un-instraw.org/docs/gender_and_ict/Hafkin.pdf (accessed 28 April 2004)

Hafkin, N. and Taggart, N., 2001, 'Gender, information technology, and developing countries: an analytic study', for the Office of Women in Development Bureau for Global Programs, Field Support and Research, United States Agency for International Development (USAID), <http://www.usaid.gov/wid/pubs/hafnoph.pdf> (accessed 28 April 2004)

Heinrich Boll Foundation (ed.), 2003, *Visions in Process: World Summit on the Information Society, Geneva 2003–Tunis 2005*, Berlin: Heinrich Boll Foundation, http://www.worldsummit2003.de/download_de/Vision_in_process.pdf (accessed 28 April 2004)

Huyer, S., 2003, 'ICTs, globalisation and poverty reduction: gender dimensions of the knowledge society. Part II. Gender equality and poverty reduction in the knowledge society', Gender Advisory Board, UN Commission on Science and Technology for Development (UNCSTD), <http://gab.wigsat.org/partII.doc> (accessed 28 April 2004)

Huyer, S. and Mitter, S., 2003, 'ICTs, globalisation and poverty reduction: gender dimensions of the knowledge society. Part I. Poverty reduction, gender equality and the knowledge society: digital exclusion or digital opportunity?', Gender Advisory Board, UN Commission on Science and Technology for Development (UNCSTD), <http://gab.wigsat.org/partI.doc> (accessed 28 April 2004)

International Labour Organization (ILO), 2001a, 'World employment report 2001: life at work in the new economy', Geneva: International Labour Office, <http://www.ilo.org/public/english/support/publ/wer/index2.htm> (accessed 28 April 2004)

— 2001b, 'The information technology revolution: widening or bridging gender gaps?', ILO Department of Communication, 10 January <http://www.ilo.org/public/english/bureau/inf/pkits/wer2001/wer01ch4.htm>, (accessed 28 April 2004)

International Telecommunication Union (ITU), 2003, 'World telecommunication development report: access indicators for the information society 2003', Geneva: ITU, http://www.itu.int/ITU-D/ict/publications/wtdr_03/material/WTDR2003Sum_e.pdf (executive summary, accessed 14 May 2004)

Jeffreys, S., 1997, *The Idea of Prostitution*, Melbourne: Spinifex Press

Jenson, H., 2003, 'Gender and the WSIS Process: War of the Words', in Heinrich Boll Foundation (ed.), *Visions in Process: World Summit on the Information Society, Geneva 2003–Tunis 2005*, Berlin:

Heinrich Boll Foundation, http://www.worldsummit2003.de/download_de/Vision_in_process.pdf
(accessed 28 April 2004)

Jorge, S.N., 2001, 'Gender-aware guidelines for policy-making and regulatory agencies', prepared for the Task Force on Gender Issues, August 2001, Telecommunication Development Bureau (BDT), International Telecommunication Union (ITU),
<http://www.itu.int/ITU-D/gender/pdf/GenderAwarenessGuidelines.pdf>

Kuhlen, R., 2003, 'Why are communication rights so controversial?', in Heinrich Boll Foundation (ed.), *Visions in Process: World Summit on the Information Society, Geneva 2003–Tunis 2005*, Berlin: Heinrich Boll Foundation, http://www.worldsummit2003.de/download_de/Vision_in_process.pdf
(accessed 28 April 2004)

Marcelle, G.M., 2000, 'Transforming information and communications technologies for gender equality', *Gender in Development Monograph series #9*, New York: UNDP,
<http://www.undp.org/gender/resources/mono9.pdf> (accessed 28 April 2004)

Martinez, J. and Reilly, K., 2002, 'Looking behind the Internet: empowering women for public policy advocacy in Central America', *UN/INSTRAW Virtual Seminar Series on Gender and ICTs*, Seminar Four: ICTs as tools for Bridging the Digital Gender Gap and Women's Empowerment, 2–14 September 2002, http://www.un-instraw.org/docs/gender_and_ict/Martinez.pdf (accessed 28 April 2004)

Mathison, S., 2003, 'ICT for poverty reduction in Asia', Kuala Lumpur: Global Knowledge Partnership (GKP) Secretariat http://www.globalknowledge.org/gkps_portal/view_file.cfm?fileid=342 (accessed 28 April 2004)

Mitter, S., 2000, 'Teleworking and teletrade in India: combining diverse perspectives and visions', *Economic and Political Weekly*, 24 June: 2247, <http://www.sacw.net/Labour/SMitter.pdf> (accessed 28 April 2004)

Ng, C., 1999, 'Making women's voices heard: technological change and women's employment in Malaysia' in *Gender, Technology and Development*, Vol 3 No1: 24. For a summary of this volume of the journal see <http://www.intech.unu.edu/research/past-research/monitoring-impact-442/gender-articles.pdf> (accessed 28 April 2004)

Pavrala, V., 2000, 'Voices from the margins', in *Voices for Change: A Journal on Communication for Development*, Vol 4 No 2, October

Ramilo, C.G., 2003, 'Gender equality and women's empowerment in the information society', paper presented at the Asian Regional Conference for WSIS, Tokyo, 13–15 January 2003

Rathgeber, E., 2002, 'Gender and telecentres: what have we learned?', presentation at the *Gender and the Digital Divide Seminar*, 7 March

Saith, A., 2002, 'ICTs and poverty alleviation: hope or hype?', paper presented at the International Seminar on ICTs and Indian Development: Processes, Prognoses and Policies, Bangalore, 9–11 December

Sassen, S., 1997, 'Place and work in the global information economy', paper presented at METROPOLIS, First International Conference, Milan, 13–15 November 1996
http://www.international.metropolis.net/events/milan/place_e.html (accessed 28 April 2004)

Sprigman, C. and Lurie, P., 2004, 'Broadband Marxism', in *Foreign Policy*, March/April,
http://www.foreignpolicy.com/story/cms.php?story_id=2509

Thioune, R.M. (ed.), 2003, *Information and Communication Technologies for Development in Africa, Volume 1: Opportunities and Challenges for Community Development*, Ottawa: International Development Research Centre (IDRC) and Council for Development of Social Science Research in Africa (CODESRIA)

UNDP, 1999, 'Human development report 1999: globalization with a human face',
<http://hdr.undp.org/reports/global/1999/en/> (accessed 28 April 2004)

Wood, P., 2000, 'Putting Beijing online: women working in information and communication technologies: experiences from the APC Women's Networking Support Programme', Philippines: APC Women's Networking Support Programme, <http://www.apcwomen.org/netsupport/sync/toolkit1.pdf> (accessed 10 May 2004)

World Bank, 2004, 'Engendering information & communication technologies: challenges & opportunities for gender-equitable development', Gender and Development Group and Global Information and Communication Technologies Department of the World Bank, Washington, DC: World Bank, http://www.worldbank.org/gender/digitaldivide/ict_brochure.pdf (accessed 28 April 2004)