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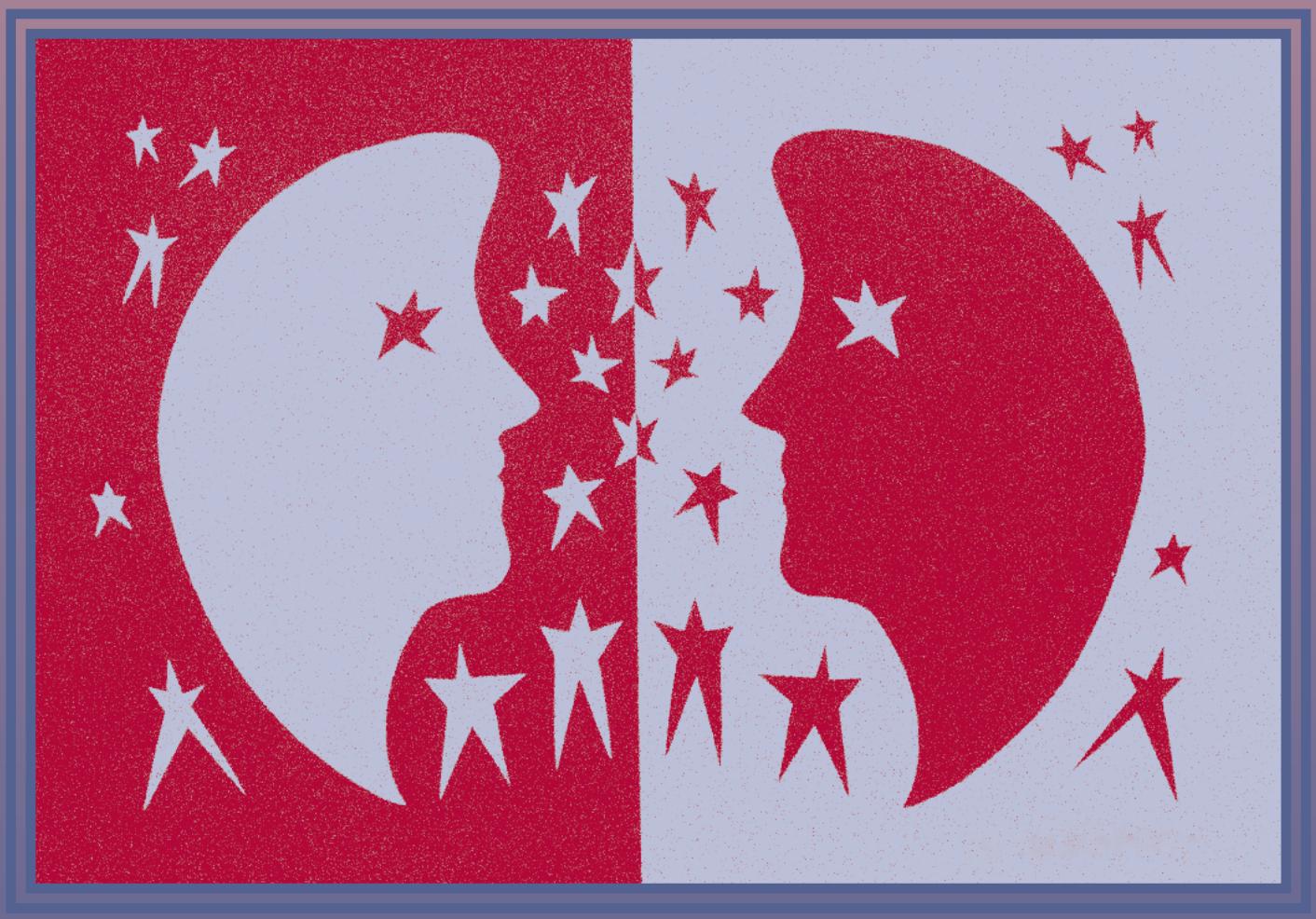

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# Gender equality and empowerment of women through ICT

***"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".***

**United Nations Secretary-General, Kofi Annan**
**Statement to the World Summit on the Information Society, Geneva, 10 December 2003**

## Introduction

### ICT and development

The role of Information and Communication Technologies (ICT) as a tool for development has attracted the sustained attention of the United Nations over recent years. Strategic partnerships have been developed with donors, the private sector and civil society, and working groups and task forces have been established to enhance inter-agency collaboration throughout the United Nations system.

In 2000, the Economic and Social Council adopted a Ministerial Declaration on the role of information technology in the context of a knowledge-based economy.[1] In 2001, the Secretary-General established a high-level Information and Communication Technologies Task Force to provide overall leadership to the United Nations on the formulation of strategies to put ICT at the service of development.[2]

The Millennium Declaration adopted in 2000 underscored the urgency of ensuring that the benefits of new technologies, especially ICT, are made available to all. To achieve this goal, a United Nations World Summit on the Information Society (WSIS) was planned in two phases. The first phase, the Geneva Summit in December 2003, aimed to develop political will and to establish the foundations for an Information Society for all. In total, 175 Governments endorsed the Declaration of Principles[3] and Plan of Action at the first phase.[4] The second phase of WSIS is planned for November 2005 in Tunis.

Information and Communication Technologies comprise a complex and heterogeneous set of goods, applications and services used to produce, process, distribute and transform information. The ICT sector consists of segments as diverse as telecommunications, television and radio broadcasting, computer hardware, software and services and electronic media (for example, the Internet and electronic mail).[5] Information and communication needs can be met by more traditional means, such as print media and fixed telephone lines, or by satellite technology, mobile phones and the Internet. Traditional technologies continue to be important for large numbers of people around the world, particularly in rural areas. However, new technologies have a vast potential for empowerment which needs to be fully exploited.

The term ICT has been used to encompass technological innovation and convergence in information and communication leading to the development of so-called information or knowledge societies, with resulting changes in social interaction, economic and business practices, political engagement, education, health, leisure and entertainment.[6] Over the past decade, there has been a growing understanding that these technologies can be powerful instruments for advancing economic and social development through the creation of new types of economic activity, employment opportunities, improvements in health-care delivery and other services, and the enhancement of networking, participation and advocacy within society. ICT also have the potential to improve interaction between Governments and citizens, fostering transparency and accountability in governance.

While the potential of ICT for stimulating economic growth, socio-economic development and effective governance is well recognized, the benefits of ICT have been unevenly distributed within and between countries. The term "digital divide" refers to the differences in resources and capabilities to access and effectively utilize ICT for development that exist within and between countries, regions, sectors and socio-economic groups.

The digital divide is often characterized by low levels of access to technologies. Poverty, illiteracy, lack of computer literacy and language barriers are among the factors impeding access to ICT infrastructure, especially in developing countries. Internet usage figures collected by the International Telecommunications Union (ITU) in 2003 illustrate this gap

in access. For instance, in 2003, the United States reported 5,558 Internet users per 10,000 persons, compared with 690 users per 10,000 persons in Asia and 156 users per 10,000 persons in Africa.[7]

The enthusiasm over the rapid growth of ICT and their applications have generated a variety of initiatives to foster the use of ICT for development, including research, projects, workshops and other activities. Many of these initiatives are directed at addressing the growing digital divide. Increased attention is being paid to reviewing and evaluating the impact of these initiatives. Early findings point to mixed results about the impact of 10 years of experience in ICT for development.

An InfoDev report published in 2003 suggests that despite the vast amounts of resources that have been invested in efforts to increase access to ICT in developing countries and among the poor, these technologies have not proven as transformative as expected.[8] The InfoDev report indicates that to harness ICT more effectively for development and poverty reduction, ICT must be mainstreamed as tools for broader strategies and programmes for building opportunity and empowering the poor. The report further states that the ICT for development agenda should identify the broader changes required in developing countries, the role ICT can have in effecting these changes, and to be more selective and strategic about the attention and resources devoted to the dissemination of these technologies.[9]

## Gender equality and ICT

While there is recognition of the potential of ICT as a tool for the promotion of gender equality and the empowerment of women, a "gender divide" has also been identified, reflected in the lower numbers of women accessing and using ICT compared with men. Unless this gender divide is specifically addressed, there is a risk that ICT may exacerbate existing inequalities between women and men and create new forms of inequality.

If, however, the gender dimensions of ICT—in terms of access and use, capacity-building opportunities, employment and potential for empowerment—are explicitly identified and addressed, ICT can be a powerful catalyst for political and social empowerment of women, and the promotion of gender equality.

This report provides a summary of critical gender equality issues related to ICT and development and outlines potential opportunities for women's economic, social and political empowerment. Key strategies and tools to address the gender digital divide in national and international contexts are presented. Examples of good practice on gender equality and ICT are elaborated throughout the report.

The report focuses on the twofold need to address the gender divide and reduce inequalities related to ICT and to identify ways to use ICT proactively and effectively to promote gender equality and the empowerment of women.

## Historical background on attention to gender equality and ICT

### Intergovernmental processes

Over the past decade, the United Nations intergovernmental processes have played a leading role in identifying key issues and proposing strategic actions to enhance women's empowerment through ICT. An emerging gender divide was identified in 1995 by the United Nations Commission on Science and Technology for Development (UNCSTD) in research conducted in preparation for the Fourth World Conference on Women. The Commission identified significant gender differences in levels of access to, control of and advantages accruing from a wide range of technological developments.[10] It concluded that "the information revolution appeared to be by-passing women; that information society literature was silent on gender issues, and that neither research nor practical projects in the information technology field had addressed the specific circumstances of women".[11]

The Beijing Declaration and Platform for Action[12] adopted at the Fourth World Conference on Women in 1995 drew attention to the emerging global communications network and its impact on public policies, as well as the attitudes and behaviour of individuals. It called for the empowerment of women through enhancing their skills, knowledge, access to and use of information technologies.[13] It also included a strategic objective: "Increase the participation and access of women to expression and decision-making in and through the media and new technologies of communication".[14]

Based on knowledge and experience that had emerged in the previous five years, the twenty-third special session of the General Assembly, held in June 2000 to review progress in implementation of the Platform for Action,[15] recognized that ICT had created new opportunities for women and contributed to knowledge sharing, networking and electronic commerce activities. Member States acknowledged that poverty, lack of access and opportunities, illiteracy (including computer illiteracy) and language barriers prevented women from using ICT, including the Internet. Steps were proposed to ensure that women benefited fully from ICT, including equal access to ICT-related education, training and entrepreneurship opportunities and equal access as producers and consumers of ICT through public and private partnerships.[16]

Later that same year, the Ministerial Declaration on Development and International Cooperation in the Twenty-First Century[17] adopted by the Economic and Social Council stated that, "[t]he potential to help foster sustainable development, empower people, including women and youth, build capacities and skills, assist small-and medium-sized enterprises, reduce poverty, and reinforce popular participation and informed decision-making at all levels is enormous".[18] The Action Plan of the United Nations Information and Communication Technologies Task Force, adopted in November 2001, aimed to "provide a platform to analyse how programmes for promoting education, combating diseases, promoting gender equality and the empowerment of women and those targeting youth, the disabled and people living in poverty in general can be leveraged and enhanced with ICT".[19] The Declaration also acknowledged the need to incorporate a gender perspective in different areas.[20]

During its forty-seventh session in 2003, the Commission on the Status of Women recognized the importance of this issue and considered the topic, "Participation and access of women to the media, and information and communication technologies and their impact on and use as an instrument for the advancement and empowerment of women". This was the first time that the Commission had directly focused on the issue of ICT and the empowerment of women. The Commission adopted agreed conclusions[21] which addressed women's equal access to ICT-based economic activities and employment, such as through telecentres, information centres and business incubators. The agreed conclusions put forward a series of recommendations in the areas of policy development and regulatory aspects, access, education, employment, partnerships, resources, research, data collection and good practices. Governments, United Nations bodies, international financial institutions and civil society were urged to ensure equal access for women to ICT-based economic activities, such as small business and home-based employment, information systems and improved technologies; and to new employment opportunities created by the implementation of ICT. They were called on to respect differences in local languages, local knowledge systems and locally produced content in media and communications and to increase efforts to compile and disaggregate statistics on ICT by sex and age, as well as to develop gender-specific indicators on ICT.

In preparation for the Commission, the Division for the Advancement of Women[22] in cooperation with ITU[23] and the United Nations ICT Task Force Secretariat[24] organized an Expert Group Meeting on Information and Communication Technologies and Their Impact on and Use as an Instrument for the Advancement and Empowerment of Women, in the Republic of Korea in November 2002.[25] The meeting considered four themes: national ICT policies and gender equality, ICT for participation, ICT for enhancing women's capabilities and ICT for women's economic empowerment. The experts adopted recommendations addressed to Governments and other relevant actors at the national and international levels.[26] The experts recommended that all stakeholders take action to ensure that gender equality and women's rights were integrated into the World Summit on the Information Society and its follow-up programmes.

## Advocacy on gender equality and ICT

In 1996, the Division for the Advancement of Women, in collaboration with United Nations and NGO partners, organized an Expert Group Meeting on "Global Information through Computer Networking Technology in the Follow-Up to the Fourth World Conference on Women". The Division also published an issue of *women2000* entitled, "Women and the Information Revolution".[27]

A "Canon on Gender Partnerships and ICT Development", developed primarily by women participants at the first international conference on ICT, the Global Knowledge Partnership Conference in 1997, outlined key principles for the development and design of ICT, prioritizing equal participation and gender-aware assessments and evaluations of ICT projects and programmes.[28] At the second Global Knowledge Partnership Conference held three years later, a specific Women's Forum developed a comprehensive set of recommendations.[29] The major recommendations included:

- Mainstreaming and monitoring of a gender perspective in all ICT initiatives;
- Collecting sex disaggregated data on the use of ICT and women's participation in policy-making as well as developing targets, indicators and benchmarks to track the progress of women's and girl's access to the benefits of ICT;
- Identifying and promoting good practices and lessons learned on the ways women and girls are using ICT;
- Capacity-building towards gender equality in education and employment;
- Enhancing democracy and women's participation through electronic connectivity; and
- Developing research and policies on health and environmental hazards of ICT industries.

In 1998, the ITU Task Force on Gender Issues was established within the ITU Development Sector.[30] Currently known as the Working Group on Gender Issues,[31] the group has been a consistent advocate of women's empowerment and gender equality within the ITU and in the preparations for the World Summit on the Information Society.[32] In 2002, ITU adopted two resolutions on gen-

der mainstreaming—one on Mainstreaming Gender in ITU-D Programmes[33]—which recognized that a "gender dimension in telecommunications" is critical to the attainment of the goal of universal access; and another one on Gender Mainstreaming in IT—which called for gender mainstreaming in all programmes of the ITU.[34] As a result of these resolutions, ITU created a gender unit with the support of the Norwegian Government to advance the work in preparation for WSIS.[35]

Advocacy for women's improved access to ICT, and attention to gender perspectives in the development and use of ICT has significantly increased in the United Nations in the context of preparations for the WSIS. The United Nations Inter-Agency Network on Women and Gender Equality (IANWGE) established a Task Force on Gender and Information and Communication Technologies to coordinate the activities of all United Nations entities working on gender equality and ICT in preparation for WSIS. The Task Force produced fact sheets on gender and ICT for WSIS Phase I, with contributions from a broad range of United Nations entities.[36] Information on specific activities of other entities of the United Nations can be accessed through the inter-agency website, Women Watch.[37]

## WSIS: Potential for addressing the gender divide

### Phase I of the World Summit on the Information Society

Gender equality advocates from civil society organizations, Governments, United Nations bodies and international agencies participated in regional and global preparatory meetings and made a strong case for including recommendations on gender equality and women's empowerment in the WSIS Declaration of Principles and Plan of Action. In meetings held in many parts of the world over a two-year period from early 2002, including in Bamako, Budapest, Tokyo, Bavaro, Paris and Geneva, gender equality advocates organized their efforts through the Gender Caucus and the NGO Gender Strategies Working Group.

One major success of these efforts was the development of partnerships and collaboration between Member States, intergovernmental agencies and other stakeholders which resulted from the increased networking, awareness-raising and knowledge sharing in the WSIS process. While the work of gender advocates is reflected directly in both the WSIS Declaration of Principles and Plan of Action, a number of the objectives relating to attention paid to gender perspectives in the outcome documents were met.

One strong paragraph was included in the first section of the Declaration of Principles which stated, "[w]e affirm that development of ICT 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 ICT as a tool to that end".[38]

The Plan of Action contains references to the special needs of women in relation to capacity-building (removing the gender barriers to ICT education and training); enabling environment (promotion of participation of women in formulating ICT policies); ICT applications (e-health and e-employment); cultural diversity and identity (strengthening programmes focused on gender-sensitive curricula in formal and non-formal education and media literacy); media (balanced and diverse portrayal); follow-up and evaluation (gender-specific indicators on ICT use and needs and measurable performance indicators to assess the impact of funded ICT projects on the lives of women and girls should be developed).

A factor inhibiting adequate attention to gender equality perspectives was the lack of delegations at the Summit with expertise or experience with gender equality and women's empowerment issues. Many delegations were comprised of trade and telecommunications ministry staff. Another major challenge of gender equality advocacy in WSIS was the assumption that gender advocacy is primarily women's work. Gender equality advocates often had to lobby for attention to gender perspectives in the context of the regional and thematic caucuses within civil society (for example, in relation to media, network security and human rights).

### Phase 2 of the World Summit on the Information Society

The Declaration of Principles from WSIS 2003 in Geneva outlined a "common vision" for the information society "premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights".[39] The WSIS Plan of Action[40] articulates concrete actions to advance the achievement of the internationally agreed development goals, including those in the Millennium Declaration, the Monterrey Consensus and the Johannesburg Declaration and Plan of Implementation.

The second phase of WSIS will focus on the monitoring and implementation of the "progress of feasible actions laid out in the Plan of Action",[41] including developing a core set of benchmarks or indicators which can be used to evaluate ICT for Development initiatives; surveying and presenting ICT "good practices" and "lessons learned"; and presenting the recommendations of two working groups on Financing

Mechanisms and Internet Governance established by the Secretary-General of the United Nations.

Gender equality advocates have focused on networking to address the broad range of issues during the preparations for the second phase of the WSIS from a gender perspective.[42] Priority areas for intervention have included lobbying for the incorporation of gender awareness in the development of national level ICT policies and "e-strategies"; and developing ICT indicators and targets as a tool for achieving the development goals of the Millennium Declaration.[43]

Financing ICT for Development is a critical gender equality issue. Several briefing and position papers have been commissioned by UNDP which have been based on consultations with organizations active in gender and ICT advocacy. The findings and conclusions of the Task Force make reference to the importance of integrating ICT policies into poverty reduction strategies; of funding civil society community networks because of their effectiveness in expanding ICT access to rural low-income populations; and of identifying further ways and means of lowering the costs of delivery to under-served markets and promoting community access. Ensuring adequate funding for ICT initiatives for women, and replication and upscaling of positive innovations and pilot projects, remains a challenge which needs to be addressed in the context of financing mechanisms.

In the formation of the United Nations Working Group on Internet Governance,[44] gender equality was one of the primary criteria used in the selection of candidates. Of the 39 members, seven are women, with a stakeholder balance of Government (18), private sector (6) and civil society (15). Two members of the WSIS Gender Caucus and NGO Gender Strategies Working Group are also on the Working Group.

The broad definition of Internet governance utilized by the Working Group includes issues related to content (such as spam and "illegal and harmful content"), and use (such as use of the Internet for fraud or criminal activities). The Working Group has prioritized the importance of Internet governance in relation to developmental aspects of the Internet, such as universal and affordable access to infrastructure, content, cultural and linguistic diversity, training and capacity-building. Gender equality issues were covered in the developmental aspects of Internet governance, in particular capacity-building in developing countries and other access concerns.

There has been active and visible gender advocacy in the work on Internet governance. However, constraints in identifying clear points for intervention and action on gender equality are faced when Internet governance is viewed from a largely technical perspective. Issues such as access to infrastructure, content and use, as well as intellectual property rights and developmental aspects, provide gender advocates with clearer entry points for intervention. Opportunities need to be identified for ensuring that recommendations for future governance arrangements address the need to create more effective means for women to participate in governance processes.

A Forum on Gender and ICTs for the World Summit on the Information Society 2005 was held in Seoul, Republic of Korea, from 24-25 June in 2005, with participants from 36 countries, representing academia, NGOs, Governments, international organizations and the private sector. The Seoul-Gyeonggi Declaration on Equal Participation of Women in the Information Society[45] prepared by participants at the Forum emphasized the need to ensure integration of gender perspectives in the ICT financing discussions, including through gender -sensitive budgeting and specific interventions for women, taking into account the needs of marginalized women. In relation to ICT governance mechanisms, the Declaration recommends establishment of multi-stakeholder mechanisms at both the global and national levels, with opportunities for participation of women. Other issues emphasized in the Declaration included the need for sex-disaggregated data, capacity-building in gender analysis of ICT policies and programmes, increased employment opportunities for women, enhanced opportunities for women's involvement in ICT decision-making, and investment in infrastructure and services specifically for women.

## Gender dimensions of ICT

Analysis of gender issues in ICT builds on previous gender analysis of technology. Technologies are socially constructed and thus have different impacts on women and men.[46] Women's capacity to exploit the potential of the new ICT as tools for empowerment is constrained in different ways. Some constraints are linked to factors that affect both women and men, including technical infrastructure, connection costs, computer literacy and language skills. These overall constraints are, however, exacerbated in many cases by gender-based determinants which particularly disadvantage women.[47]

Most poor women in developing countries are further removed from the information age than the men whose poverty they share.[48] Women need ICT for the same reasons as men; to access information of importance to their productive, reproductive and community roles and to obtain additional resources. Access to ICT can enable women and men to gain a stronger voice in their communities, their Government and at the global level. ICT also offers women flexibility in time and space and can be of particular value to women who face social isolation, including many women in developing countries.

## Access and effective use

In addition to physical access to the technology and the ability to utilize it, access also refers to the ability to make use of the information and the resources provided. The factors identified as constraints to access and use, i.e. poverty, illiteracy, including computer illiteracy, and language barriers are particularly acute for women. Women are, for example, less likely to own communication assets, such as radios, mobile phones and computers. In addition, women's access to and use of ICT is constrained by factors that go beyond issues of technological infrastructure. Socially constructed gender roles and relationships play a key role in determining the capacity of women and men to participate on equal terms in the information society.[49] A UNESCO report on "Gender Issues in the Information Society" points out that the capability of women to effectively use information obtained through ICT is clearly dependent on many social factors, including literacy and education, geographic location, mobility and social class.[50]

Women are in the minority of users in almost all developed and developing countries. 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.[51]

The development of infrastructure includes many decisions about the location of facilities, the type of technology, and issues of costs and pricing. Decisions which do not explicitly consider access for rural areas and poor and marginalized social groups, but favour urban areas with high-end and expensive communication services and technologies, can negatively influence access to and use of ICT by women.

Technological aspects can have a tremendous impact on women's access to and use of ICT. Mobile telephony, for example, has increased the access, ease of use and coverage among women in rural areas in many parts of the world. Internet radio has also become accessible to women through community and women-specific spaces.

While ICT can deliver potentially useful information, such as market prices for women in small and micro-enterprises, it is only one element in a longer chain of necessary resources. Where women have limited or no access to roads and transport, credit and other development inputs, access to and use of ICT will consequently be limited in its impact. It is therefore important to complement the provision of ICT facilities with additional services and training that will build the capacities of women as well as men to act on the information and knowledge accessed through ICT.[52]

Investment in content development at the local level, based on local information needs, is key to increasing women's access to and relevant use of ICT. Greater attention should also be paid to recognizing women, including poor women, as information producers, and supporting their involvement by providing relevant training in collecting, packaging and disseminating local knowledge.

### Use of radio networking in Brazil

CEMINA (Communication, Education, and Information on Gender)[b] is a Brazilian organization with the mission of improving education on gender equality, health and environment issues and strengthening poor women's rights and citizenship through the use of radio. In 1995, a group of women's radio programmes founded the Women's Radio Network, which includes 400 women's radio programmes distributed across Brazil reaching thousands of listeners located in the poorest communities. CEMINA is committed to integrating the Internet into a more traditional media that people are already familiar with in order to address cultural barriers which constitute a major challenge to overcoming the gender digital divide. CEMINA aims to empower women communicators by providing them access to the Internet through the creation of community radio telecentres and a defined space on the Internet with gender content.[c]

### Mobile phones for rural women in Senegal

The Senegalese telephone company Sonatel, and Manobi, a French company, provided cell phones with Web Access Protocol (WAP) to rural women agricultural producers in Senegal, thereby extending their access to the Internet. This technology helped women obtain information about market prices of the inputs for their food processing activities and for the sale of their produce. The women preferred cell phones to computers because of the ease of transport. Women in the project appreciated the economic benefits of the technology, and other women were interested in becoming part of the project.[a]

### Impact of women's use of telecentres in South Asia

In 2002, UNESCO explored the potential of ICT to contribute to poverty reduction in nine locations within five countries in South Asia. Access to ICT represented real and symbolic access to modernity, the future, education and knowledge. ICT centres constituted a space in which people could develop a sense of change and possibility. The study showed that gender perspectives played a significant part in determining both the barriers as well as the positive effects of ICT for empowerment. Social and economic exclusion due to gender-based restrictions on mobility was found in many households, with most women's interaction generally restricted to their immediate family, a few neighbours and some extended family. The restrictions resulted in narrowing women's access to the information and resources that ICT centres provided.[d]

Experience has shown that reaching women in developing countries, particularly in rural areas, is facilitated by using multiple forms of media and communications technologies, i.e. ensuring that new technologies, such as computers and the Internet, are combined with technologies that reach more women such as radio, television and print media. The provision of relevant local language content, via affordable and easy-to-use technologies that are accessible to an audience with limited reading skills, is crucial if ICT are to meet the needs of women in developing countries.

## Public access centres

One of the strategies adopted to increase access of remote areas and marginalized groups to ICT is the development of public access centres, such as telecentres, information centres or cybercafes. Telecentres can be part of existing institutions—such as health centres, schools and community centres.

In many cases, the location of and arrangements around public access centres are decided without considering the constraints for women, such as inappropriate opening times (including evenings), security issues and lack of transport. Women's multiple roles and responsibilities may limit the time they have available to use such facilities. In addition, women tend to have less disposable income to spend on communications than men. Telecentres can fail to reach women because attention is largely focused on the hardware, and not on content of information or the social context.[53] As a result, it is further maintained that public ICT facilities have a tendency to become men-only spaces; effectively inhibiting women's access.[54]

The availability of women support staff and trainers in these facilities can facilitate women's and girls' use of ICT resources. Some experiences of telecentres around the world have shown that women are more comfortable with women-trainers and, in some cases, able to participate more effectively in women-only training environments.[55] The recruitment of women as managers of 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 one-third of telecentre users even when female trainers and facilitators and women-targeted training materials are made available. Other solutions proposed include having women-only times at existing telecentres or developing women-only spaces in these centres.[56]

Facilitating women's access to appropriate content is critical to ensuring that women can fully exploit the opportunities of public access centres. Repackaging and augmenting information (downloading, simplifying, adapting information to local contexts and translating into local languages), and documenting and uploading local-origin information, are critical steps for enhancing the relevance and use of telecentres for women.[57]

There are positive examples of use of public access facilities to increase

### Benefits for women of an ICT centre in India

As women became involved in the Baduria ICT Centre in West Bengal, India, they reported that they gained more respect in their local communities as a result of the ICT skills acquired at the centre—learning to use a computer and accessing and distributing information to local people. This resulted in greater respect at both the family and community levels. Younger women felt they were able to approach the job market with greater confidence. There was also an emergence of solidarity; since women learned to use computers together at the ICT Centre, they often discussed their problems, creating a sense of unity among them and bringing forth leadership qualities.[e]

women's access to and use of ICT. The experiences of community telecentres in many Latin American countries present positive examples of democratization of the Internet, increased women's participation and leadership in these areas, stimulation of the social uses of the Internet, and the active and informed inclusion of marginalized sectors, for example, through centres such as the Somos@ telecentros Virtual Community Project, coordinated by the Chasquinet Foundation[58] (Quito, Ecuador) and supported by the International Development Research Centre (Canada). Similar projects are underway in Central America, such as Proyecto LINCOS and SISCOM in Costa Rica.[59]

## Employment

The International Labour Organization (ILO) *World Employment Report* (2001)[60] observes that patterns of gender segregation are being reproduced in the information economy with women concentrated in end-user, lower-skilled ICT jobs related to word-processing and data entry and men in more senior managerial, administration and design of networks, operating systems and software. Women finding employment in the new, often ICT-related industries are rarely those who lost their jobs in the traditional sectors. New inequalities are therefore emerging between women with ICT-related jobs skills versus those without.[61]

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 never experienced in any other field. In the information technology sector, however, women make up a small percentage of managerial, maintenance and design personnel in networks, operating systems and software. According to the United Nations Development Fund for Women (UNIFEM), women hold nine 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.[62] Only among data entry workers do they form the majority at 85 per cent.

The majority of positions within traditional telephone companies in most countries are held by women. A closer look, however, reveals that women dominate the ranks of telephone operators and data entry personnel.[63] Little data is available on women's participation in computer science, engineering research and employment in the private sector as well as in research institutions. Many women who operate computers use them largely for word-processing and related office programmes and for data entry. Few women are employed as programmers and systems analysts. In Asia, women constitute only 20 per cent of programmers (mostly in lower-skilled, low-value-added positions), while making up the majority of workers in data processing (especially outsourced work).[64] In North America, Europe and Asia, few women are found in software and hardware engineering.[65]

The Commission on the Status of Women, at its forty-seventh session in 2003, urged relevant actors to ensure equal opportunities for women and to monitor gender representation in different categories and levels of work, education and training in the media and ICT areas, with a view to increasing women's participation in decision-making at all levels of ICT and the media.[66]

In most countries, women are under-represented in ICT decision-making structures including policy and regulatory institutions and ministries responsible for ICT. Women are under-represented on the boards and in the senior management of IT companies, policy and regulatory organizations, technical standard-setting organizations, industry and professional organizations and within Government bodies working in this area. "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".[67]

Even where women have the necessary skills, persistent cultural constraints, such as stereotypical views of the roles of women and men and women's lack of mobility, remain a barrier to their full participation in the information age. Boundaries of work-time in the technological society do not recognize women's and men's multiple roles, and labour laws may prevent women's full participation in the information economy.

Deregulation and privatization of the telecommunications industry can make decision-making in this sector less accountable to citizens and local communities, further compounding inequalities in access to decision-making and control of resources for women.

### Business process outsourcing

Recent technological changes have allowed for different parts of the production process to be split, resulting in the relocation of information processing within the ICT sector. This trend towards business process outsourcing affects not only domestic labour markets and the possibilities of increased foreign exchange inflows, but also the status of women's employment. In some countries in Asia, such as India, China and the Philippines, business process outsourcing is the single largest technology-enabled employer of women and one in which women are earning significant livelihoods.

However, there is considerable debate about the impact of this trend for women in the long term. The debate revolves around which

women benefit from this new form of employment and the implications of the type of work women do in the sector. On the one hand, some researchers claim that outsourcing has created different requirements for labour, involving only a limited number of highly skilled professional workers and a large pool of semi-skilled workers. Two reports presented at the regional 10-year review of the implementation of the Beijing Declaration and Platform for Action, organized by ESCAP, stated that outsourcing "shows clear signs of labour market segmentation by gender, caste and class".[68] These reports also indicated that women employed in business process outsourcing are mostly from the urban and educated sections of their societies. This pattern of development, while reducing unemployment among educated women, will not contribute significantly to reversing the unemployment of lower-skilled women and could in the long-term, reinforce current socio-economic inequities.

Research by other scholars on women and ICT in Asia presents outsourcing as a major opportunity for the economic empowerment of women. With an expected 500 per cent increase in India's ICT services and back-office work, involving jobs for four million people and accounting for seven per cent of GDP by 2008,[69] women's employment in this sector is expected to grow.[70]

In the service segment of IT work (call centres) where women comprise the vast majority of workers, critics focus on the self-denying cultural aspects, where workers have to learn the accents as well as popular speech and culture of the countries that companies service. Others focus on the fact that women do not profit from the flexibility that ICT are supposed to represent. They rather become tied to shifts that match peak call times in other countries that, for example, frequently come after midnight in India, the current centre of business processing outsourcing. Due to the high premium placed on increasing productivity, female call centre workers tend to be young and only remain in this activity for a few years as a result of the sheer pressure of the work. Studies of call centres in Delhi and in the New Okhla Industrial Authority (NOIDA) demonstrate a lack of opportunities for development and promotion and a high degree of burnout. Very few women are employed at the professional level or in the management of business process outsourcing.[71]

Teleworking is another growing employment trend that has opened up new opportunities for women, using ICT to enable them to work from their homes. This new organization of work has implications for women's multiple gender roles, including their domestic responsibilities in the household. Women, in particular in India and the Philippines, do medical and legal transcription and maintenance of daily accounts for small businesses located in northern countries. They are frequently termed "virtual assistants". Although they are able to work at home, the women perform their work in addition to the domestic labour expected of married women, for low wages relative to those working in the organized sector and under insecure employment contracts (if contracts exist at all). Women working at home also have to make substantial investments to secure their work—including the purchase of computers and payment for electricity and Internet connectivity.

The ILO *World Employment Report* (2001) warns that "as teleworking is emerging as an important mode of working in the information economy, existing social inequalities—particularly gender inequalities—will be reinforced unless proper policy measures are implemented".[72] Promotion of teleworking for women must recognize the implications for women's work burden, given that the division of work at the household level is not being changed. While home-based work does allow women to continue to fulfil the domestic roles traditionally expected of them, it can be at a huge cost to women themselves, for example, staying up all night to meet deadlines. The long-term effects of this type of work need to be further monitored and evaluated. Evaluative indicators and benchmarks which determine changes in gender relations resulting from teleworking need to be developed and monitored on a continuous basis.[73]

### Malaysian experience of teleworking

The findings of E-homemakers in Malaysia,[f] a group which has worked since 1998 to support women who choose to work from home to balance their gender roles and responsibilities, show that rather than finding a balance between household tasks and paid work done at home, women often deal with increased multiple burdens. E-homemakers is collaborating with Malaysia's Ministry of Women and Family Development to develop a gender-sensitive teleworking policy in Malaysia. This project could have a significant impact on gender equality and ICT if teleworking is designed on the need to establish equality between husbands and wives in all aspects of family life, in decision-making, in household work and in family responsibilities.[g]

## Access to capacity-building on ICT

Many organizations are working to build the capacity of women to access and use new ICT, through providing training for ICT-related jobs, as well as training for women in using ICT in their professions, including small businesses. In Afghanistan, for example, the Ministry for Women's Affairs, in collaboration with United Nations Development Programme (UNDP), has established a computer training centre for women.[74] An InfoDev project, implemented by Cisco Systems and the United Nations Economic Commission for Africa (ECA), awards scholarships for young African women for training in Internet networking. Assessment of the training—which includes training on gender equality—reveals that the graduates have benefitted in terms of increased and self-confidence and self-esteem and that 82 per cent of graduates of the first course had concrete plans for use of the skills learned, including in entrepreneurship.[75]

### Generating new jobs for Korean women

Between 2001 and 2002, the Government of the Republic of Korea established several projects for the economic empowerment of women. The Kyonggi Province Program for women provides training for women as IT professionals. The programme is tailored for women in different life situations. For example, unemployed women, women heads of households and handicapped women who want to enter the work force are trained in business incubation. The 10-12 month course has been completed by about 600 women, of which nearly two-thirds have either found employment or started their own businesses. The course made numerous accommodations to meet women's needs and constraints, including their daily schedules.[h]

## Content and stereotypical portrayal of women

The importance of creating and distributing culturally diversified and local content for both traditional and new media has been recognized as a crucial factor in the promotion of diverse cultural and linguistic expression.[76] However, much of the content available through the Internet and the new media is in languages that are not understood by billions of people. The English language has become a prerequisite for access to half of the information available on the Internet—for example, in search engines, catalogues and other sources.[77] In Asia, there are 2,197 languages spoken and only 20 per cent of people are able to communicate in English.[78] Women make up the majority of those who cannot access such information because of language barriers.[79]

The principle of content repackaging that underlies many ongoing projects is a key to providing information to "unconnected" women. Many "connected" women—particularly in developing countries—act as bridges to unconnected groups in their communities by repackaging information they find online and sharing it through alternative communications channels and in different languages.[80]

Women's ability to produce content relevant to their needs and priorities is of particular importance at a time when control of mass media networks—including radio, television, films, newspapers, magazines, cable, satellite, the Internet and telecommunications—is increasingly concentrated in the hands of a few media conglomerates.

Women's exclusion from information production means that the diver-

### Relevant content for women in Latin America

In Latin America, the women's movement has made concerted efforts to produce relevant Spanish content on the Internet. In 2003, a group of women's organizations in Argentina created the Agenda de las Mujeres (Women's Agenda) portal and ISIS International–Chile launched their portal Mujeres Hoy (Women Today). The portals provide access to important information produced in the region on the women's movement and gender equality issues. They reproduce articles published throughout the continent and make available key documents, research, statistics and reports related to women's status and the advancement of their rights. Women contribute directly to the contents of these portals. Another interesting project has been developed by Radio FIRE, Costa Rica, the first feminist radio on the Internet. In addition to the audio of their radio programmes, the website contains written information and a photo gallery of events where women are key actors. Radio FIRE supports the women's movement in campaigns on sensitive issues, such as violence against women, women in conflict areas and child abuse.[i]

### WomenWatch: the United Nations website

WomenWatch is a United Nations inter-agency website on gender equality. It was created in 1997 to follow-up the 1995 United Nations Fourth World Conference on Women in Beijing. WomenWatch is a "gateway" to information on work carried out to promote gender equality across the entire United Nations system. Through WomenWatch, information is disseminated on intergovernmental processes, in particular the Commission on the Status of Women, the work of the Convention on the Elimination of All Forms of Discrimination against Women, research and statistics and operational activities within the United Nations system. WomenWatch provides an online database-driven mechanism which links to websites and webpages, and in some cases to specific documents, on gender equality produced by United Nations entities. The directory is catalogued into sections on specific topics, such as the 12 Critical Areas of Concern from the Beijing Platform for Action and other emerging issues, including the Millennium Development Goals.[j]

sity of their viewpoints, experiences and concerns are not well represented. This results in cementing the stereotypical portrayal of women in the established media.

Concerned about the image of women projected in the media, participants at the Fourth World Conference on Women in Beijing agreed that "print and electronic media in most countries do not provide a balanced picture of women's diverse lives and contributions to society in a changing world".[81] The Platform for Action called for a balanced portrayal of women and girls in their multiple roles and encouraged the "use of non-stereotyped, balanced and diverse images of women in the media".[82]

As discussed in the following section, images of women as sex symbols proliferate on the Internet.[83] By increasing women's access to training on and use of new technologies, especially the Internet, their ability to combat negative portrayals of women through ICT can be strengthened.

## Exploitation of women and girls through ICT

The use of the Internet to perpetuate violence against women is of increasing concern at global, regional and national levels. The Internet is utilized to normalize and accelerate the sexual exploitation of women and children. According to recent research, the Internet has increased the commodification of women and sexualized violence, including through broadcasting sexual abuse in real time. Competition among sites has increased the percentage of violent and misogynistic images.[84]

A recent comprehensive paper[85] has outlined the various forms of new technologies that have been used to sexually exploit women. They include digital video disks that enable greater interactivity between users and images; newsgroups for the exchange of information on how to locate and sexually exploit women; websites as a popular medium of distribution and marketing of pornographic materials and prostitution; chat rooms as spaces for child sexual abuse; file transfer protocol (FTP) as a technological application for exchanging materials on child pornography; and live video chats which can facilitate human trafficking for sexual purposes.[86]

According to a leading advocate on ICT and domestic violence in the United States, "technology is becoming an integral part of battering tactics".[87] Some of the documented dangers experienced by survivors include surveillance of Internet activity through spy software and tracking of movement through global positioning software.[88]

The sex industry has used the anonymity provided by the Internet to violate laws prohibiting sexual exploitation and violence with impunity, particularly in countries with strong non-regulation policies. By locating their servers in host countries with less restrictive laws, creators of pornographic websites can avoid regulation while still accessing global markets. The new technologies have thus enabled the creation of online communities, free from community interference or standards, where any and every type of sexual violence is possible and misogyny is the norm. The average person with a computer, modem and search engine can now find more violent, degrading images in several minutes than they could have found in a lifetime 15 years ago.

The growing presence of sexually exploitative content and use of the Internet for the exploitation of women and violence against women has been used to argue the enforcement of policies that will control the content that can be published on the Internet. For example, there have been calls for technology that will not only filter content but will track down creators and clients of pornographic websites.

ICT can be effectively used to foster awareness of the many forms that violence against women can take on the Internet and to develop a com-

### Online module on violence against women on the Internet in the U.S.

In April 2002, the Berkman Center for Internet and Society at Harvard University launched a six-week online module on "Violence against Women on the Internet".[k] The course synopsis stated "[i]n this series, we will explore the various ways in which violence against women is facilitated through the use of the Internet, as well as ways in which the Internet may be used as a site of resistance to such violence. Violence against women is a critical social problem that affects all of us in some way. Whether we have directly experienced abuse, know a friend who has been victimized, or have been confronted with the myriad other forms such violence take, it impacts how we view the world and shapes our experiences and opportunities".[1]

munity that can both respond to these issues and take action.[89] The women's movement has begun to address the enabling role of ICT in combating violence against women. The Internet has been used effectively to mobilize activists against pornography.[90]

Women's groups must participate in the development of policies, legislation and other actions to combat the exploitation of women and girls. One critical approach is to increase women's use of the space provided by ICT to discuss and debate violence against women on the Internet.

## Potential for empowering women

In developing countries, there has been an increase in pro-poor ICT for development initiatives. A study by the International Development Research Centre of Canada (IDRC) on ICT for poverty reduction strategies states that trends show that "ICT have been applied to systemic improvements important to poverty reduction such as education, health and social services delivery, broader Government transparency and accountability, and helping empower citizens and build social organization around rights and gender equality".[91] However, the study also cautions that while documentation of experiences is increasing, there continues to be a need to consolidate research and evaluate lessons that will facilitate effective ICT for development strategies, including support for pro-poor initiatives such as girl's access to primary education.

Women's empowerment is focused on increasing their power to take control over decisions that shape their lives, including in relation to access to resources, participation in decision-making and control over distribution of benefits. For women who can access and use them, ICT offer potential, especially in terms of reducing poverty, improving governance, overcoming isolation, and providing a voice. However, existing persistent gender discrimination in labour markets, in education and training opportunities, and allocation of financial resources for entrepreneurship and business development, negatively impact on women's potential to fully utilize ICT for economic, social and political empowerment.

There is a growing body of evidence on the benefits of ICT for women's empowerment, through increasing their access to health, nutrition, education and other human development opportunities, such as political participation. Women's sustainable livelihoods can be enhanced through expanded access of women producers and traders to markets, and to education, training and employment opportunities. By using one of the most important democratizing aspects of the Internet—the creation of secure online spaces that are protected from harassment—women are enjoying freedom of expression and privacy of communication to oppose gender discrimination and to promote women's human rights.

Experiences throughout Africa, Eastern Europe, Asia, Latin America and the Caribbean illustrate creative solutions to provide access to and use of ICT as a tool for participation and, most importantly, to contribute to women's empowerment. For example, the Multimedia Caravan project in Senegal provided rural women with the opportunity to develop their own ideas on how ICT can be used to further their development needs and goals. In Kenya, women and men weavers were trained in using the Internet to learn new weaving techniques and access more realistic prices for their products. In Uganda, the Uganda Media Women's Association established a radio programme—Mama FM—where women can actively participate and learn about development issues such as human rights, children, governance, nutrition, health, among others. In Poland, the Network of East-West Women disseminated information to enhance women's participation in the European Union accession process in European Union candidate countries. These projects illustrate the scope of ICT and clearly show that technologies such as radio, television and CD-ROMs are perfectly acceptable, and in many cases more effective forms of ICT than web-based solutions, as they can resolve issues such as language, illiteracy or access to the Internet.[92]

The advent of new technologies and the growing convergence of all media have had a major impact on

the information and communication work undertaken by the women's movement. The new technologies offer potential for innovative social interaction, including peer and bottom-up communication, and creative opportunities for the creation, reproduction and dissemination of information relevant for women. There are increased opportunities for national, regional and global distribution of women-generated news, much of which, in the past, was limited in outreach. The Internet has brought women's news and views into the public domain, with countless websites targeted specifically, if not exclusively, to women.[93]

Availability of technology is only one aspect influencing the potential for empowering effects. Potential for empowerment is also affected by socio-cultural aspects, such as class, age, ethnicity and race. Women from the same social context may not enjoy equal access to ICT.

## Empowerment of rural women

General Assembly resolution 58/146 stressed the need to ensure that rural women have access to and fully participate in the area of ICT. The resolution invited the World Summit on the Information Society, in Geneva and Tunis, to take into consideration, while addressing gender issues, the priorities and needs of rural women and girls as active users of information and to ensure their participation in developing and implementing global information and communication technology strategies.

Effective access to and use of ICT can improve rural women's leadership and participation in community and economic development activities. However, rural women are at the lowest level of the digital gender divide. According to findings of the ITU, limited infrastructure, affordability and education are the main barriers for rural women in Africa. Time, geographical location of facilities and social and cultural norms constitute additional constraints.[94] The improvement of access for rural women and their participation in ICT will be limited if access to infrastructure, such as roads and transport, education, training, and economic resources, including financing, is not increased. Multiple forms of media and communication technologies reach more women in rural areas.

United Nations entities have worked to ensure access to and use of ICT by rural women in many different areas. The UNDP/Japan Women in Development Fund has supported programmes in Bhutan, Cameroon, Egypt, India, Rwanda, Ukraine and to increase rural women's access to ICT. For example, in Egypt, model health clinics have been set up in rural areas and provide, inter alia, access to and training in health related information with extensive use of ICT. In Ukraine, under a project entitled "Sustaining Women Farmers" approximately 2,000 prospective women entrepreneurs have attended ICT training seminars. In the Arab States, UNIFEM has supported the participation of women in ICT through a new partnership in a Jordanian Government-sponsored "E-Village" initiative. Apart from education and training opportunities, the project also creates new job and marketing opportunities, focusing in particular on linking women producers to expanded tourist markets. In March 2005, ESCAP co-organized a seminar on e-business opportunities for women.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) capacity-building programme for the empowerment of marginalized adolescent girls in depressed rural areas in Bangladesh, India, Nepal and Pakistan includes literacy and life skills, management of micro-enterprises, micro-finance, and science education with access to ICT. A UNESCO project in Nabanna, India, on "Networking Rural Women and Knowledge" explores innovative uses of databases, intranet portals and web-based partnerships in the local language for the benefit of poor women. The project's emphasis is on building a framework for information sharing, content creation, off-line information dissemination and web-based partnerships with organizations located outside the region. The findings of this and other innovative models and approaches of applying ICT for poverty reduction at the grassroots level are documented in two UNESCO publications: *Profiles and Experiences in ICT Innovation for Poverty Reduction* and *Research ICT Innovations for Poverty Reduction*.

### Women's radio clubs in Zimbabwe

The establishment of women's radio clubs in Zimbabwe enabled women to network with other rural women and to participate in political life. In Zimbabwe, some 52 women's radio listening clubs are active in the Development through Radio project, aimed at giving rural women access to radio and allowing them to participate in the production of programmes based on their developmental needs and priorities. Women posed questions to political officials which were transmitted through an information intermediary. The responses of officials became part of the weekly broadcast. The project is now extending the programme to women in Sierra Leone to increase their involvement in the civic and political life in the rebuilding of their country.[m]

### ICT for the empowerment of indigenous women

In the IV Continental Encounter of Indigenous Women that took place in Lima, Peru in 2004, indigenous communicators discussed the low levels of access to ICT, due mainly to infrastructure shortcomings. Indigenous women emphasized the value of combining traditional media, mainly radio, with community telephones, to bring up issues for discussion in their own language related to community development concerns, such as health and education. Indigenous communities need to build their own communication initiatives, participate in networks, develop capacity for political involvement and create alliances with journalists who support the participation of indigenous communities in society.[n]

## Enabling women's economic empowerment

ICT interventions that are directed at economically empowering women capitalize on the potential of these technologies as knowledge and networking tools for women as producers and distributors of goods and services. The tools are used to connect women to new and wider markets, broaden their social networks and provide them with information that opens up important economic opportunities.

ICT can provide new opportunities for women's economic empowerment by:

- Creating business and employment opportunities for women as owners and managers of ICT-accessed projects, as well as employees of new business ventures;
- Creating an environment, including through training, where women feel comfortable participating in community development activities and advocating for their needs and priorities;
- Developing ICT-based tools that address women's specific needs and are run by women (for example, literacy programmes, business planning courses, ICT training, access to market and trading information services and e-commerce initiatives); and
- Offering economic opportunities in salaried employment and entrepreneurship, as well as in the ICT sector itself and in jobs enabled by ICT.

Programmes and initiatives have demonstrated how ICT can be an instrument for women's economic empowerment, such as the Grameen Phones Programme in Bangladesh, the Development through Radio Programme in Zimbabwe, and the deployment of competitive wireless options in Bolivia and the Dominican Republic, particularly for women in the informal sector.[95]

E-commerce initiatives can link women producers and traders directly to markets at national, regional or even global levels, allowing them to restructure their economic activities and bypass middlemen and male-dominated and exploitative market structures.[96] In Gujarat, India, women dairy producers use the Dairy Information System Kiosk (DISK), which manages a database of all milk cattle and provides information about veterinary services and other practical information about the dairy sector.[97]

Notwithstanding these innovative approaches, availability and access to the necessary facilities for women

### Ideas for earning money in Uganda

A project in the Nakaseke region of Uganda has illustrated that poor, largely illiterate women in rural Africa, in areas with limited connectivity, can benefit from new ICT. In a 1999 needs assessment, rural women living near the Nakaseke Telecentre indicated their need for information on marketing and prices for foodcrops and crafts. With funding and support from the International Development Research Centre (IDRC), the International Women's Tribune Center (IWTC) designed a CD-ROM of ICT-based learning materials on microenterprise, in a audiovisual package using local languages and easily accessible to women with low literacy skills. Women visited the Telecentre and used the CD-ROM enthusiastically. Some are saving to acquire mobile telephones so that they have daily access to market prices and can make better marketing decisions. The community of women has become more confident and is working together to devise solutions to reduce their poverty. They are also training women from other areas in the use of ICT.[o]

### Using the Internet to increase productivity of handicrafts in Argentina

PRODEMU, an NGO in Catamarca, Argentina, trained young women from a poor rural community in the use of ICT for improving the design and marketing of handicrafts. By creating a webpage and improving the packaging, they increased their sales. This kept young women profitably employed in their community rather than migrating to work in cities.[p]

remain major concerns. Even a project such as the CD-ROM project in Uganda requires access to a community telecentre or community access point where computers and special assistance are available to create an environment where women feel welcome and comfortable exploring a new technology.[98]

Beyond generating new jobs for women, ICT are being used in projects that address other gender equality issues related to poverty reduction. For instance, projects in South Asia that focused specifically on income generating activities and direct employment benefits for women created a space for information exchange, provided support networks and developed a range of interrelated social, technical and economic skills. Participants acquired the confidence for autonomous activity that made a significant contribution to their empowerment.[99]

Although ICT have not yet had a significant impact on creating employment and generating income for very poor and marginalized women, there is potential through increasing their engagement with ICT to expand social networks and introduce new modes of learning which can play a key role in overcoming poverty in the future.

## Enabling women's socio-economic empowerment

ICT provides opportunities for women's socio-economic empowerment in many areas, including in health and education.

### Education

Education is an area where both developed and developing countries are applying a combination of traditional and new ICT, adapting, for example, the use of computers and the Internet, radio and television, in formal and informal learning, distance education and in establishing e-learning centres—to support education and training of women and girls.

High illiteracy rates of women and girls and their lack of ICT training are two of the most serious barriers that prevent them from entering the information economy. Continuing gender gaps in education, due to domestic responsibilities, lack of mobility and socio-cultural practices that downplay the importance of education of girls, constitute enormous challenges for women and girls.[100] Language and basic computer literacy are prerequisites for women and girls to benefit from the use of ICT for education. The under-representation of women in science and technology adds to the gender differences and inequalities in this field.

Initiatives that focus on educating women in poor communities and teaching them computer literacy have demonstrated the value of ICT for women. A study of nine projects with a specific focus on women and youth in South Asia showed that ICT use is valued for providing a different model of teaching and learning which is practical and hands-on. New ICT also allow the process and content of education to be adapted to learner preferences and priorities, thus opening up possibilities for designing and providing education in forms that are locally relevant.[101]

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. 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.

### Functional literacy through ICT in Ghana

A project in Ghana uses radio to develop functional literacy and to provide information in local languages on a wide range of topics. The topics include HIV/AIDS, teenage pregnancy, nutrition, community empowerment, income generating activities, food preservation, animal husbandry, child labour, and energy-saving. Radio is also used to support literacy teaching with more detailed information that could not be provided in the classroom. Although faced with problems such as poor radio infrastructure and inadequate airtime to offer literacy in 15 local languages, the project illustrated that the use of radio strengthened the coverage of the functional and development themes of the literacy programme, changing people's attitudes towards family planning and contributing to the establishment of income-generating ventures.[q]

### ICT for education in African countries

World Links, an organization that promotes international tele-collaboration among secondary school teachers and students in developing countries, commissioned a gender assessment study in 2001. The research focused on male and female students in four African countries: Ghana, Mauritania, Senegal and Uganda. The evaluation found that despite efforts to make the programme gender-sensitive, gender inequalities in access persisted. In some schools in Ghana and Uganda, girls do not enjoy equitable access to the computer labs. High student-to-computer ratios and first-come, first-served policies do not favour girls who are typically heavily outnumbered by boys at the secondary level. Girls have earlier curfew hours and domestic responsibilities that limit their access time. Proposed measures to correct this gender bias include encouraging schools to develop "fair use" policies in computer labs, conducting gender sensitivity sessions and advocating for reducing after-school duties of girls to give them more time.[r]

## Health

There is a vast potential for ICT to facilitate global, regional and national health initiatives for women. The use of ICT by health practitioners in developing countries is quite well established. Organizations such as Satellife[102] and HealthNet[103] are examples of projects that have been successful in providing health information and connections to developing country health professionals. Satellife is a US-based NGO that works to break down barriers to health information access through innovative applications of ICT. HealthNet is its global communication network, which links health-care workers around the world via e-mail and allows doctors, nurses, researchers, medical students and other health-care providers who had been working in isolation to communicate, share experiences and access information critical to their work.

These kinds of projects exemplify how ICT can contribute to improve health conditions in developing countries. However, there has been too little attention given to how these technologies can directly address women's health concerns, or how they can build on women's roles at household and community levels as the primary users and disseminators of health information.[104]

Some successful efforts have been undertaken by health promoters to use radio to effectively disseminate information related to women's health, including sexual and reproductive rights and health. Use of the Internet is being explored through exchange of information via e-mail, online newsletters and listservs.[105] ICT have the potential for delivering locally adapted health information to women through community access points.

## HIV/AIDS

ICT are also helping women in HIV/AIDS affected households to cope, particularly in Africa where AIDS remains a major problem and where women and girls often bear the brunt of the pandemic. Women are at greater risk of HIV infection, including as a result of gender inequality. They bear significant responsibility for caring for HIV/AIDS victims and for the survival of families. They are constrained by lack of inheritance and property rights, unemployment, lack of access to and control over resources, and poor health, including malnutrition.

### ICT in support of women's health in Uganda

The United Nations Population Fund (UNFPA), in collaboration with Uganda's Ministry of Health and Population Secretariat and Uganda district authorities, initiated the project, RESCUER, with the objective of reducing Uganda's high maternal mortality rate (506 per 100,000) by improving local care and referral systems. The project combined communications, transport and quality health services. High frequency (VHF) radios were installed at base stations, health units, referral hospital ambulances and District Medical Officer's vehicles. Birth attendants were equipped with walkie-talkies which improved the image of the birth attendants and built confidence in their patients, allowing them to help more women. Rural health personnel are now able to call and give practical advice even when there is no transport available. The RESCUER project is being replicated in three districts and there are plans to extend it to 30 more.[s]

### ICT supporting women to cope with HIV/AIDS in Kenya

The Kenya AIDS Intervention Prevention Project Group[t] established community-based informal learning centres in western Kenya, giving priority to orphans, widows, low-income women and older vulnerable children from HIV/AIDS affected households. The participants are taught about nutrition, and receive training in relevant skills to enable them to care for people living with AIDS and to become economically and socially empowered. The project organized a health and agriculture community radio network for women who had completed the training. The participants were organized into six radio listening groups, and were trained in the use of audio and video recording equipment to enable them to exchange information, for example, on farming techniques, and to raise public awareness about HIV/AIDS. The groups were also trained in photography and the use of drama and traditional oral storytelling as tools for learning, education and development. A radio/cassette player and a mobile phone were distributed to each of the groups, and the participants were encouraged to communicate with national FM radio stations—to respond to programmes, obtain information and share their experiences with a wider audience.

## Enabling women's political empowerment

People around the world are using new technologies in unprecedented ways for networking, movement building, political participation and advocacy. Women and their organizations have pioneered strategic and empowering uses of ICT to promote women's rights. The Fourth World Conference on Women, as well as the five- and ten-year reviews of the implementation of the Platform for Action in 2000 and 2005, led to massive networking and mobilization of the women's movement globally through ICT.

Organizations such as the Association for Progressive Communications Women's Networking Support Programme (APC-WNSP), International Women's Tribune Center (IWTC), Agencia Latin America de Informacion (ALAI), FEMNET Africa, ISIS International, Network of East-West Women, the European and North American WomenAction (ENAWA), and many others, have constituted an effective global communications network in support of women's advocacy through training women activists, facilitating online dialogues, debates and discussions across countries and regions and aggregating content in websites. This network also advocated actively for expanding the coverage and commitment of Governments around media and ICT issues.

Within the context of increasing monopolies in the communications sector, women's media and communications networks are taking full advantage of new technologies to amplify the voices of marginalized women. The emergence of ICT has facilitated the establishment of alternative media organizations and NGOs covering issues that are not given adequate attention by the mainstream media and to reach out to large sections of the population that were previously not served by the mainstream media. The Internet has brought women's news and views into the public domain, with countless websites targeted specifically, if not exclusively, at women.

### Fiji suitcase radio project

A women's community media initiative in Suva (femLINKpacific—Media Initiatives for Women) is pioneering a community radio project using mobile suitcase radio equipment with a 100-watt transmitter. FemLINK trained young women in secondary schools as its broadcast team. Its first broadcast in May 2004 coincided with the International Women's Day for Peace and Disarmament. The radio project is a proactive response to the commercialization of radio waves in Fiji and provides a space for women who wish to raise their issues, in their own way, in their local communities. The mobile radio project aims to address gaps in information to and from women in rural communities, especially in relation to strengthening women's participation in decision making.[u]

### Women Mayors Link: connecting local governance, ICT and gender

Women Mayors' Link is an initiative developed in 12 countries and territories of the Stability Pact Region. The direct beneficiaries are 50 women mayors from Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia, Greece, Hungary, Kosovo, the Republic of Moldova, Romania, Serbia and Montenegro and Slovenia. The project aimed to promote the use of ICT to improve local and community governance, and to promote gender issues within constituencies. Half of the women mayors had developed strategies on ICT in local government institutions and agencies and 64 per cent had specialized departments dealing with the Internet, e-mail and network issues. The fact that 90 per cent of the project was implemented by e-mail and the Internet increased the level of confidence and satisfaction of the participants in using ICT. The initiative was successful in promoting networking among women mayors in the region. Despite the gains made, participants still face challenges in effective and strategic use of ICT for their work. Almost half of the women mayors had problems related to the costs. Other challenges include the lack of capacity-building opportunities that will enable them to use ICT to benefit their communities. Language is another barrier faced as the majority of women in the network have beginner-level English skills, while limited relevant content is available in their native languages.[v]

Information technology can contribute to increasing women's networking for social and political advocacy, strengthening women's participation in the political process, supporting the work of elected women officials, and increasing women's access to government and its services.

#### E-Governance

ICT is a forceful tool to improve governance and strengthen democracy and citizen empowerment. It can help foster more transparent governance by enhancing interaction between government and citizens, revitalizing civic institutions and public debate, promoting equity and equality, and empowering minorities.[106] It can be particularly powerful in providing a voice to women who have been isolated and invisible.

In recent years, e-governance has become a priority area of many Governments resulting in the implementation of programmes that apply ICT in delivering Government services and promoting transparency and accountability. Beyond delivery of Government services and information to the public using electronic means, e-governance focuses on using these new technologies to strengthen the public voice to revitalize democratic processes, and refocus the management, structure, and oversight of Government to better serve the public interest.[107]

E-governance is significant for the exercise of citizenship and direct public participation in Government activities, both of which are key elements in women's empowerment and achievement of gender equality. Gender-responsive governance involves the active and meaningful participation of women in all levels of decision-making and ensuring greater transparency and accountability in government.

### Access to Government services in India

Gyandoot is an intranet project in Dhar district of Madhya Pradesh which connects 21 rural cybercafes located on the roadsides of central villages. The services include provision of farm gate prices of agricultural commodities, copies of land records, facilities to file applications for caste, income and domicile certificates, landholders' passbooks of land records and loans through e-mails. Through the project women have a greater understanding of and access to the local processes. They may file complaints regarding common public grievances through the Internet and an e-mail reply is assured within seven days. The complaints filed include hand-pump disorders, teacher absences, and inadequate access to seeds and fertilizers.[w]

### Empowering women in the context of violence against women

A virtual space can provide positive information on violence against women and a safe place for victims and survivors of violence to discuss their experiences or to seek help. For women to benefit from these spaces, they need access and capacities to utilize ICT in this manner. For ICT to be an effective tool for advocacy on violence against women, the needs and realities of women must be identified and addressed. This requires capacity-building efforts for women to enable them to trust and use ICT as a medium for communicating about their experiences. Affordable access points for women must also be provided. Experience has shown that it is important to complement Internet-based advocacy with more traditional forms of communication media.

### The Fifth Woman Campaign in Slovakia

The Fifth Woman Campaign, which ran from November 2001 to February 2002, was a nationwide media campaign on violence against women in Slovakia. The campaign was a joint effort of seven women's groups. The name of the campaign was derived from the estimation that every fifth woman has been a victim of gender-based violence. In addition to raising public awareness, the campaign also aimed to support NGOs to advocate for measures to address the problem and assist victims. The Fifth Woman website was created as a platform for publishing articles on violence against women and facilitating online discussions. An analysis of the response revealed a deepening concern and understanding of violence against women as a priority issue in the country. Some problems were encountered in using ICT as the main medium for the campaign, and the organizers realized the importance of face-to-face meetings and discussions to augment the campaign's online activities. Despite these challenges, ICT played a crucial role in the success of the campaign, particularly in broadening the audience for the campaign. The number of visitors to the website was larger than the number of people who called on the info-line (3,121 calls on the info-line versus 5,672 website visits).[x]

### Helpline for women in India

In Trichy, an NGO created a helpline for women in distress to handle issues such as rape, sexual harassment, battering and dowry harassment, and eve-teasing. The complainants can disclose information anonymously which is routed to the All Women Police Station for further action. The service has received a positive response as women can avoid the social stigma of having to go to a local police station where they may encounter red tape and corruption. There is also an option of e-mailing other types of complaints to the police control room.[y]

## Strategies for addressing the gender digital divide

### Use of multiple forms of media and communication technologies

Future strategies for reaching women, particularly in remote areas, need to use multiple forms of media and communication technologies. A mix of "traditional" and new technology is often the most appropriate choice. Gender equality advocates are using radio, print media, Internet and video in innovative manners to expand the reach of new technologies. In many situations, the combination of radio and the Internet is proving especially powerful. New ICT can significantly strengthen existing communication strategies. There are many creative examples of this approach carried out by women's organizations on the ground.

### Improving sex-disaggregated data, indicators and benchmarks

Recognition of a gender digital divide exists, but due to a lack of data it is difficult to provide factual evidence to policy makers on the need to include gender issues in ICT policies, plans and strategies. Sweeping generalizations based on anecdotal materials are of limited value.

One of the recommendations of the forty-seventh session of the Commission on the Status of Women in 2003 was to increase efforts to compile statistics disaggregated by sex and age and to develop gender-

### Project using a multiple ICT approach in Malawi

Farmwise is a project which is helping women farmers in the rural village of Mwandama in Zomba district, Malawi, to improve agricultural production. The project developed a computer database system with a web-based interface and e-mail facility to help women farmers determine what they can expect to harvest from their land, which crops can be grown given the soil type and fertility, and what inputs should be used and when. Requests for advice from farmers were sent by e-mail to the advisers in the agricultural extension office. E-mail was also used to communicate with Radio 1, a station of the Malawi Broadcasting Corporation, popularly known as "Farmers Radio". Since most farmers in the village listen to this radio station, it was used to publicize the Farmwise project. The station's programme presenters used the online input calculator to answer questions from farmers about the types and amounts of inputs they required, and taught farmers with Internet access how to use it. The women were given alerts of the relevant radio programmes and their airtimes. Brochures were also available. As a result of the project, productivity in the district has more than doubled.[z]

specific indicators on ICT use and needs. Sex-disaggregated data is not being collected on a regular basis at the national, regional or global levels. As a result, the gender digital divide remains unmeasured and invisible. Standard presentations of ICT statistics have paid little or no attention to gender equality issues. The World Bank statistical database, "ICT at a Glance", prepared by the Development Data Group, for example, provides breakdowns by country but without disaggregation by sex for any of the indicators.

Areas where sex-disaggregated statistics and indicators are needed have been identified as access and usage, content, employment, education, consideration of gender issues in national ICT policy, representation in decision-making and the relative impact of ICT on women and men.[108] It is difficult to get gender-specific data on use by country for developing countries. As a result, existing statistics on Internet usage need to be interpreted with caution.[109] In developing countries where women make up a high percentage of users, populations with access to the Internet constitute a small elite, as seen in Indonesia, Mexico and Philippines.[110]

Gender-specific, as well as gender-sensitive, indicators at the national level are required to support policy makers in defining gender-sensitive goals and recommendations. At the project level, the collection of sex-disaggregated data is necessary to assess if women and men benefit equally from projects and to identify necessary corrective actions.

Few countries or areas collect gender-specific ICT statistics. Those that do are largely countries or areas where the gender digital divide is least marked. Canada, Chile, Denmark, Finland, Hong Kong Special Administrative Region of China, Iceland, Ireland, Singapore, Sweden, Thailand and the United States all collect sex-disaggregated ICT usage statistics. In all of these countries or areas, the percentage of female Internet users as a percentage of total Internet users is 45 per cent or more. In most African countries, where such data is not collected by official statistics sources, estimates of female Internet use as a percentage of total use are 25 per cent or less.[111]

The only area where ITU systematically collects sex-disaggregated telecommunications/ICT statistics is the employment of women by telecommunications service providers.[112] While it is valuable to know that women comprise the majority of employees in telecommunications companies, the type of work that women are engaged in and whether women have accessed higher-income, highly-skilled and decision-making positions must also be taken into account.

ITU has recognized that it is important to go beyond the numbers of women and men employed, to documenting the posts they hold and analysing changes over time.[113] ITU has recently embarked on a project to compile and analyse quantitative and qualitative gender-sensitive information from national and international sources. This information, which could eventually be compiled into a database, will provide an important source of sex-disaggregated ICT statistics.[114]

A major source of sex-differentiated statistics and indicators on ICT presently available are market research surveys from a number of countries where Internet commerce is already significant or anticipated.[115] The data available from these sources, however, concentrate on Internet usage and online behaviour, with reference to commercial/market analysis.[116]

Some of the most interesting and substantial work on the collection of gender and ICT statistics is being conducted by the Republic of Korea. Since 2000, the Korean Network Information Center[117] has undertaken and published quarterly surveys of Internet use, averaging 5,700 users, with some 20 categories of data collected and disaggregated by sex, and in most cases, age.

### "Women's informatization survey and index development" in the Republic of Korea

In 2001, the Ministry of Gender Equality released a research report on "Women's informatization survey and index development" which examined the gender digital divide in the Republic of Korea. The Ministry based their research on five categories, from which they developed an index of women's "informatization"—defined as the process by which information technologies have transformed economy and society. The categories utilized are awareness, access, utilization, skill and effects (impacts). The index measured the comparative involvement of women and men according to the categories. The results showed that women's informatization measured 88 per cent that of men's. Although women scored very high on awareness, skills and effect, the situation of women was particularly deficient in terms of access and usage, with women having only 22.9 per cent the access of men and using the Internet 28.2 per cent as much as men. In November 2001, the Government of the Republic of Korea followed the development of the index with a survey of statistics to compare women and men in terms of informatization. Among the findings was a digital divide by age, with a serious gap apparent for those in their fifties and older. Higher-income women had a higher rate of informatization than those with lower incomes.[aa]

### Full implementation of gender mainstreaming

Gender equality aspects need to be fully incorporated in all work related to ICT at national, regional and global levels, including in the development of policies and regulatory frameworks, projects and research and data collection. A basic starting point for incorporating gender perspectives in ICT initiatives is the use of gender analysis to ascertain the needs and priorities of both women and men and the manner in which policy-making, planning and other activities can support equitable access, use and benefits, including employment opportunities.

A study of hundreds of development projects, either with ICT as the major sector or with substantial ICT components, showed that while more than one-third of all projects had a high degree of awareness of gender issues, gender-sensitivity was carried over to the ICT components in only 10 per cent of the projects.[120]

Lack of data is a fundamental constraint for evaluating the gender impact of ICT and women's position in the ICT sector within the region of Central and Eastern European States and the Commonwealth of Independent States (CEE/CIS). A recent report from UNIFEM and UNDP[118] noted that the limited data available are often inconsistent or otherwise inadequate for revealing the situation of women in relation to the ICT sector. A recent initiative of the Statistical Division of the United Nations Economic Commission for Europe (ECE) will make an important contribution to addressing this gap and facilitating the efforts of National Statistics Offices to improve their data collection and to develop gender-sensitive data and indicators on gender and ICT.[119]

### Sex-disaggregated data on ICT in the ECE region

The United Nations Economic Commission for Europe's Statistical Division conducted an assessment on gender and ICT data in the ECE region in 2003. Questionnaires were sent out through the National Statistics Offices (NSOs). The results indicated a wide range in data collected in the 19 countries reporting the availability of sex-disaggregated data. Some countries, such as Finland, have highly developed ICT data collection systems which include extensive sources on new technologies; while others, such as Russia, only collect data in relation to education. Thirteen of the 42 reporting NSOs had not started any official ICT data collection, eleven of which were CIS and Balkan countries. Of the CIS countries which responded to the ECE Assessment Survey on ICT and Gender Statistics, Ukraine was the only country to report the collection of official sex-disaggregated ICT data on use and knowledge of computers, through household surveys known as People's Security Surveys, which have been carried out since 2001 in collaboration with ILO and UNDP.[bb]

## ICT policies and regulatory frameworks

Gender issues need to be identified and addressed in all aspects of development and implementation of ICT policy and regulatory frameworks. Such frameworks cover a range of issues, including the development of a national communication infrastructure (including technology choices), Government information services, and tariffs and pricing, which influence women's access to and use of ICT. Policies and regulatory frameworks, including legal protection and the right to privacy and anonymity in transactions, interaction and expression, directly affect the rights and security of users, and are of concern to women as well as men.

Despite the importance of ICT policy decisions at the national level related to women's access and use, ICT policies in most countries give inadequate attention to gender equality perspectives. Further, too few efforts are made to improve women's access to ICT and to increase women's participation in decision-making and management. In 2001, a six-country[121] study carried out by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) related to the provision of networking and telecommunications infrastructure, the facilitation of e-commerce, human resource development, and the promotion of good governance and citizens' participation illustrated the lack of attention to gender equality goals and women's advancement in national ICT development frameworks and strategies.[122]

There has been relatively little involvement of national machineries for the advancement of women or of civil society groups. Improved processes of consultation and participation need to be developed and more women should be involved at decision-making levels. Efforts should be made in these processes to ensure that women's specific needs are addressed, particularly in relation to access, use and employment. This would require adequate resource allocations to support initiatives focused on increasing the access to and use of ICT by women for their empowerment.[123]

Some positive examples have, however, been identified. A number of countries in Africa (Côte d'Ivoire, Guinea and South Africa) have taken valuable steps towards gender equality in ICT policy. For instance, the Telecommunications Act of South Africa includes provisions to redress gender imbalance and other areas of disadvantage.[124] In Asia, the Republic of Korea has set an important precedent by establishing a proactive ICT policy towards gender equality.

One means to influence ICT policies from a gender perspective is through encouraging increased participation of women in decision-making and policy-making positions. However, increasing the involvement of women and women's groups in ICT policy and planning and monitoring and evaluation will require training on gender and ICT to increase the potential for their full participation. One contributor to an online discussion held in November 2003 on women's role in ICT, "Talk to Her", highlighted the importance of women gaining access to the "language" of ICT. "I think one of the biggest challenges for many young women is grappling with the language of ICT for development policy processes. Many times, policy statements are written (and discussions conducted) using specialized terms which most people would only learn in university".[125]

### Assessment of gender mainstreaming in Central Eastern European/Commonwealth of Independent States (CEE/CIS) countries

Most countries in the CEE/CIS region have developed, or are in the process of developing National Action Plans for Information Policies, which guide national ICT development. A gender perspective is largely absent from these plans. At the same time, women's organizations in the region have rarely engaged with ICT issues and little pressure is on policy makers to take gender perspectives into account in relation to ICT. A gender assessment indicates that a critical starting point for achieving gender balance in the ICT sector is equal access to tertiary level education. It also highlights the need to encourage older women to use ICT. Based on the findings, the following actions are recommended: increased support for gender and ICT advocates in the region; gender mainstreaming within ICT policies and programmes; further research to determine the status of women in the ICT sector and the gender impact of ICT policy development; specific measures to strengthen gender perspectives within ICT projects at various phases, including planning, implementation, and evaluation; capacity-building for ICT project personnel on gender equality and its relevance to ICT; and support for stronger involvement of women and women's organizations from the region in the WSIS process leading to the 2005 Tunis Summit.[cc]

### Project planning

Gender concerns have to be addressed in initial stages of ICT projects to ensure that the needs and priorities of both women and men are appropriately considered and that gender equality goals are embedded in project design. A study undertaken by the World Bank in 2002 of 80 ICT projects concluded that gender issues were rarely articulated in product design and implementation, often because donors do not request this information.[126] Broad gender mainstreaming guidelines for ICT projects have been proposed by a number of organizations with the intention of influencing project design and implementation. These guidelines build on the well-developed gender planning and gender mainstreaming tools that are now commonly utilized in different sector areas.[127]

The World Bank study underlined the need for a proactive approach to ensure gender-balanced participation, particularly in projects in developing countries because of the limited pool of women with skills in this area. It also indicated that those responsible for project implementation should take account of gender relations when ensuring women's full participation in order to avoid backlash from other community members. Involving all stakeholders in the target community, including both women and men, in the earliest phases of project design is imperative.

### Training

Attention to gender perspectives in existing capacity-building activities and development of specific training for women's groups and networks, including national machineries for the advancement of women, is critical to successfully incorporating gender perspectives in all areas of ICT development. Training is needed at national, regional and local levels. Government bodies could support the development of, and fully utilize the training capacity of, NGOs or civil society organizations involved in ICT.

As emphasized in the online discussion organized by the Division for the Advancement of Women in 2002, the main barriers to women's use of ICT continue to be lack of training, language and access to necessary tools. "The problem of training has to be faced if we want to be able to express our needs and fears using ICT and if we want to be producing information and not only consuming it. Women of any age have to be involved in the training activities and emphasis should be put on young girls to become real actors in public life".[128]

### Funds for ICT for development

Gender perspectives should be incorporated into the allocation and implementation of funds to support ICT for development. Issues of importance include increasing the allotment of funds for women-specific projects, and the consideration of gender perspectives in all aspects of the management of such funds. Attention should be paid to ensuring that sufficient funds are directed to capacity-building which is accessible to women and men.

Telecommunication Development Funds (TDFs) have been established by telecommunication regulators to finance the expansion of universal access to ICT in under-served and rural areas. Most TDFs are established to finance ICT access projects, including telecentres, phone shops, public telephones and libraries. Such funds have been successfully developed and implemented in many Latin American countries (for example, Chile and Peru). Several countries in Africa and Asia are currently working to develop their own TDFs (including Nigeria, Sri Lanka, Uganda and Zambia). In South Africa, the Universal Service Agency was created to implement ICT projects to expand universal access. Very few ICT projects by NGOs or civil society organizations have received funding from TDFs. Such projects should be developed and implemented by women's organizations or organizations working towards gender equality. Some funds give attention to gender perspectives by ensuring that the basic guidelines state the need to support women's organizations, women managers, and take women users into account in their planning, as evidenced in the Dominican Republic and South Africa.[129]

## Further development of gender-specific tools

ICT advocates and practitioners are developing gender-aware consultation and participation methods and tools to assess the needs and priorities of women and to ensure that ICT are effectively utilized as a tool for women's empowerment. These include training programmes and planning and evaluation methodologies. The Association for Progressive Communications Women's Networking Support Programme (APC-WNSP), a global network that facilitates strategic use of ICT to support women's actions and agendas, provides gender training for ICT practitioners and policy makers, and has in this way increased outreach to a wide range of policy makers, including Government officials in the Balkans, Andalucia, Spain, the Philippines and several Pacific island countries.

The Gender Evaluation Methodology (GEM) for ICT initiatives was developed by APC-WNSP as a resource for ICT practitioners. GEM has been tested in 27 ICT projects in over 19 countries in Africa, Asia, Central and Eastern Europe and Latin America. Projects included community telecentres, education and training initiatives for women, employment projects, networking and community building projects and women's ICT media, information and advocacy projects. The evaluation findings cover issues of access, use of ICT for employment and economic empowerment, and the use of media and ICT to support advocacy for gender equality issues and women's empowerment.[130]

### Gender and ICT Awards

Gender equality advocates have also initiated awards to highlight good practices. The Gender and ICT Awards programme was inaugurated during the WSIS in Geneva in December 2003. This awards programme was conceived to recognize gender and ICT initiatives globally and to provide further impetus for mainstreaming gender perspectives in the field of ICT. Four innovative and effective projects that use ICT for the promotion of gender equality and women's empowerment were recognized and received grants to further their work. The award winners came from India, Romania and Uganda addressed issues of rural women and armed conflict, political empowerment of women mayors and poverty reduction strategies for poor women. The Gender and ICT Awards are organized by the Association for Progressive Communications Women's Networking Support Programme[131] and the Global Knowledge Partnership.[132] The Gender and ICT Awards will also be awarded in 2005 and will focus on the use of ICT for women's economic empowerment.[133]

In 2003, the GenARDIS (Gender and Agriculture/Rural Development in the Information Society) established a Small Grants Fund to Address Gender Issues in Information and Communication Technologies for Agricultural and Rural Development in Africa, the Caribbean and the Pacific. GenARDIS partners include the Technical Centre for Agricultural and Rural Cooperation, the International Development Research Centre (IDRC), the International Institute for Communication and Development (IICD) and the Humanist Institute for Cooperation with Developing Countries (Hivos).[134] The competitive awards programme was set up to improve outreach to rural women who comprise the majority of the poor. The programme responds to gender issues in the urban-rural digital divide in ICT infrastructure and to other constraints that disadvantage women, including language, literacy, heavy workloads and cultural attitudes.

**Project receiving a GENARDIS grant—The Knowing and Growing Network: ICT tools for women organic farmers in the Caribbean**

As in many other regions in the world, Caribbean women play a vital, if under-recognized and unsupported role in food production. Organic farming is highly knowledge-intensive and women farmers often lack the means to learn more about organic production methods and tend to be isolated from market information. To overcome these challenges, Networked Intelligence for Development, an NGO based in Toronto, Canada, organized a workshop in collaboration with the Jamaica Organic Agriculture Movement for Caribbean women engaged in organic farming to help them take advantage of the Internet to access and exchange information about organic farming methods, to promote their businesses, and to market their products. The workshop led to the development of a network among participants, taught participants how to set up and participate in online user groups and provided information about organic farming and existing networks on the Internet.[dd]

### Research on gender equality and ICT

Continued research on gender equality and ICT issues at the national, regional and global levels and documentation of good practices also contributes to deepening the understanding of practitioners and policy makers about the interplay of these technologies with gender equality and the empowerment of women. New research focused on the gender dimension of ICT in various contexts is increasing. This expanding resource can be used by Governments, institutions and organizations at different levels in mainstreaming gender perspectives in ICT policy processes and ICT for development initiatives.

One recent example is a report by UNDP and UNIFEM entitled, "Bridging the Gender Digital Divide: A Regional Report on Gender and Information and Communication Technologies in Central and Eastern Europe and the Commonwealth of Independent States". This is the first report to compile a substantial inventory of gender equality projects and resources for the information society in the CEE/CIS region, including references to other resources, relevant websites and contacts. The report examines opportunities and challenges faced by women in relation to the ICT sector and the regional and subregional diversities and specificities of the CEE/CIS region.[135]

Another example is a 2003 report published by the United Nations International Research and Training Institute for the Advancement of Women (INSTRAW) entitled, "Overcoming the Gender Digital Divide: Understanding ICTs and their Potential for the Empowerment of Women".[136] The report synthesizes major research findings on the potential of ICT for women's empowerment; examines the social context of technology; and identifies the main structural barriers to women's access to and use of ICT. Strategies are proposed to overcome these barriers and to empower

women through ICT. Emphasis is placed on the need for women in developing and developed countries to share knowledge, strategies and experiences to develop their capacity to engender the ICT policy-making and regulation process.

In August 2004, the WSIS Gender Caucus launched a competitive programme of small research grants (funded by bilateral donors) to support innovative research on gender and information communications technologies from 2004 to 2005.[137] It is anticipated that the supported research will be presented at the Gender Caucus panels to be held during the second WSIS in Tunis in November 2005. The overall objective of the programme is to enlarge the knowledge base for gender-sensitive policy on information communications technologies. Research topics include the analysis and evaluation of efforts to mainstream gender perspectives into ICT policy; applications and content including case studies; and theories and methodologies for better understanding and analysing the relationship between ICT and gender equality.

### Support to national machineries in Africa to effectively use ICT

A capacity-building project is being carried out by the United Nations Division for the Advancement of Women to enhance the capacity of national machineries for the advancement of women in Africa to systematically and effectively use traditional and new forms of ICT to achieve their goals. The capacity-building project aims to enhance dissemination of national data on gender equality issues; improve advocacy and mobilization efforts; increase access to and utilization of relevant research at the national level; facilitate networking at sub-regional and regional levels for sharing experiences and good practices among national machineries; and increase the involvement and influence of national machineries in national processes on ICT as well as their involvement in WSIS II in Tunis in November 2005. The project includes five sub-regional workshops and a regional meeting, carried out between 2003 and 2005, and a panel on the role of national machineries during the WSIS II.[ee]

## Enhanced role for national machineries for the advancement of women

The Commission on the Status of Women, in its consideration of gender equality and ICT at its forty-seventh session, recommended that action be taken to "strengthen the capacity of national machineries for the advancement of women, including through the allocation of adequate and appropriate resources and the provision of technical expertise, to take a lead advocacy role with respect to media and ICTs and gender equality, and support their involvement in national, regional and international processes related to media and ICTs issues, and enhance coordination among ministries responsible for ICTs, national machineries for the advancement of women, the private sector and gender advocacy NGOs within countries".[138]

It is also important that women's ministries and agencies, gender focal points, and gender advocates educate themselves and their membership on ICT issues and their relevance to women and consequently coordinate their efforts to participate in and influence telecommunications and ICT policy processes and programmes.[139] These groups should be involved in the development of national gender equality and ICT agendas and the provision of training on gender equality and ICT for Government bodies involved in national ICT policy development.

the gender digital

## Moving forward on addressing the gender digital divide

The World Summit on the Information Society has led to a stronger recognition of the value of people-centred rather than technology-centred ICT development and the need to integrate ICT policies with sectoral policies in all areas, such as health, education, agriculture, labour and industry. It has also highlighted the importance of aligning ICT policies with national poverty reduction strategies and the implementation of the Millennium Development Goals.

In the follow-up to the WSIS process, a key priority should be ensuring that gender perspectives are incorporated into the development and implementation of e-strategies at the national level. This will require concerted action from gender equality advocates in Governments, civil society organizations and networks, and international and regional organizations, including United Nations entities. New partnerships are needed with development partners such as academic institutions, the private sector and venture capital funds.

An enabling environment at the national level requires that overall gender equality policies give attention to ICT and that gender perspectives are taken into account in identifying the ICT implications in policies in all sec-

tor areas. Governments must be committed to adopting specific legislative, regulatory and administrative measures to promote gender equality in the ICT sector, and to developing capacity and creating monitoring frameworks to ensure implementation. Gender-sensitive budget processes should ensure that national and local budgets allocate specific resources to support strategies that will increase women's participation in the information economy and ensure that women gain access to new employment opportunities in the ICT sector. Such measures must recognize the diversity of women and their roles as producers and consumers of ICT; identify the differential impact of ICT on women and men; and respond to the different development needs and priorities of women throughout their life cycle.

Another crucial element is ensuring the active participation of all stakeholders in the policy process, including national machineries for the advancement of women and women's groups and networks, and providing adequate resources for their work. This includes supporting research, compiling sex disaggregated statistics on ICT use and employment in the ICT sector, developing gender-specific indicators, and initiating innovative pilot projects to increase women's access to and use of ICT.

Gender equality advocates in national machineries and civil society need to educate themselves about ICT policy issues and become more actively involved in the policy process at the national level, including by strengthening their capacity to monitor national actions in ICT-related areas. To support this work, a more substantial body of evidence needs to be developed that can demonstrate the links between gender and ICT for development. An important goal must also be to take every opportunity to sensitize policy makers about the importance of gender issues in ICT through briefings, consultation and training.

National machineries for the advancement of women should increase the use of ICT in their work for the advancement of women and gender equality, for example, to support their role as advocates and catalysts for gender mainstreaming, to facilitate the production of relevant information on national priorities and to enhance networking and the sharing of good practices at national and regional levels. National machineries should advocate for relevant content on women and gender issues on all official Government websites, in addition to those websites that specifically address gender equality issues. Priority should also be given to proactively influencing national ICT policy formulation and implementation, and, in particular, the positions of national delegations to the World Summit on the Information Society and other international and regional meetings on ICT. Participation of women in these meetings should be supported.

Donors, including from the private sector, can play a catalytic role by mobilizing resources to support innovative projects which promote gender equality in ICT. Examples include the production and/or repackaging of content particularly relevant to women's interests and concerns; the support of women as producers of content, including at local levels; enhancing women's participation and representation in business and professional organizations related to the ICT sector; promoting and strengthening women's entrepreneurship in the ICT sector, including by identifying and disseminating positive role models; and facilitating the creation of networks, mentoring programmes, and the development of business support programmes and linkages between national and regional diaspora.

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30 ITU, 1998.
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## Publications

# World Survey of the Role of Women in Development

### Women and Migration

A flagship publication of the Department of Economic and Social Affairs of the United Nations Secretariat, the *2005 World Survey on the Role of Women in Development* addresses key issues related to women and international migration. The migration of women has always been an important component of international migration. A gender perspective is essential to understanding both the causes and consequences of international migration despite that a dearth of data on women and migration makes it difficult to assess the full implications of international migration for women. Migrant women contribute to the economic development of their country of destination and to the country of origin through financial contributions from remittances, the improvement of their own skills or their contributions to the improvement of the education and skills of the next generation. Women often migrate officially as dependent family members of other migrants or to marry someone in another country. Various international instruments specifically or generally enumerate the rights of migrants. Many national laws on emigration and immigration of voluntary migrants include discriminatory provisions that affect the protection of migrant women. Refugee women and girls face particular problems regarding their legal and physical protection. The trafficking of people for prostitution and forced labour is one of the fastest growing areas of international criminal activity and one that is of increasing concern to the international community. International migration affects gender roles and opportunities for women in destination countries. Some countries have laws that particularly disadvantage women migrants as well as native women who marry foreign men. Migration can profoundly affect the health and well-being of both migrating women and women staying behind when their spouses migrate. The 2005 World Survey analyzes key issues on labour migration, family formation and reunification, rights of migrant women, refugees and displaced persons, as well as trafficking of women and girls. It sets out recommendations, which, if adopted, will improve the situation of migrant, refugee and trafficked women.

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### The Convention on the Elimination of All Forms of Discrimination against Women and its Optional Protocol

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# Women, Peace and Security

### Study submitted by the Secretary-General pursuant to Security Council resolution 1325 (2000)

This study on women, peace and security was mandated by Security Council resolution 1325 (2000) and the preparation was coordinated by the Special Adviser on Gender Issues and Advancement of Women in close cooperation with the Inter-Agency Task Force on Women, Peace and Security. It indicates that while women and girls share experiences with men and boys during armed conflict, the culture of violence and discrimination against women and girls that exists during peace times is often exacerbated during conflict and negatively affects women's ability to participate in peace processes and ultimately inhibits the attainment of lasting peace.

The study documents how, over the last 15 years, the United Nations system, Member States, regional organizations and civil society increased efforts to better respond to the differential impact of armed conflict on women and girls and recognized women's efforts in conflict mandates of peacekeeping and peace-building missions as well as in the programming and delivery of humanitarian assistance; representation of women at all stages and at all levels of peace operations, in humanitarian operations and in decision-making processes in post-conflict reconstruction; as well as improved compliance with existing international legal norms.

The study draws on the collective experiences of the United Nations system: it analyses the impact of armed conflict on women and girls; it describes the relevant international legal framework; and it reviews the gender perspectives in peace processes, peace operations, humanitarian operations, reconstruction and rehabilitation, and in disarmament, demobilization and the reintegration processes.

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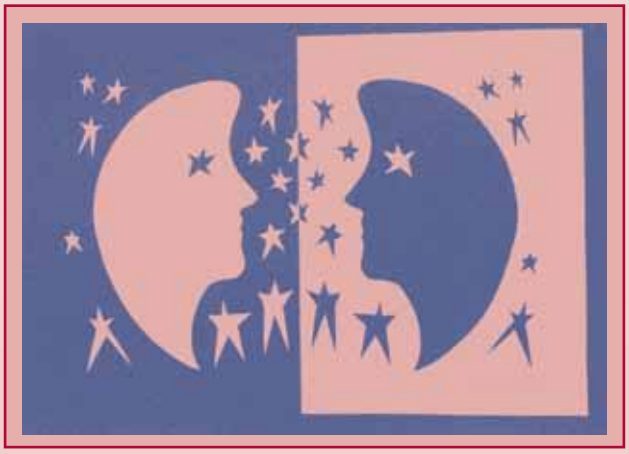

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