United Nations Division for the Advancement of Women (DAW)
International Telecommunication Union (ITU)
UN ICT Task Force Secretariat

Information and communication technologies and their impact on and use as an instrument for the advancement and empowerment of women

Report of the Expert Group Meeting
Seoul, Republic of Korea, 11 – 14 November 2002

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Executive summary

There is a wide consensus that information and communication technologies (ICT) are central to the creation of the emerging global knowledge-based economy and can play an important role in accelerating growth, in promoting sustainable development and eradicating poverty in developing countries as well as countries with economies in transition and in facilitating their effective integration into the global economy. This report examines how the rapid diffusion of ICT and associated growth of the ICT sector offers vast opportunities as well as poses particular challenges and risks to women's empowerment and promotion of gender equality globally, and especially in developing and transition countries.

The report will show that **when there is an enabling environment, ICT can provide diverse avenues for women's social, political and economic empowerment.** For example, the report provides evidence of how women's economic livelihoods can be uplifted through expanding access to local and international markets for women producers and traders, and through increased access to jobs, education and training, and entrepreneurial opportunities. Women have taken advantage of the increased flexibility in employment conditions to combine roles in the care economy with professional roles. They have increased their access to health, nutrition, education and other human development opportunities, such as political participation, through ICT-mediated delivery channels. Women have also made extensive use of ICT services to mobilize for women's empowerment and societal well-being. The changing nature of work in the information economy is, however, not without its risks. The report will show that although some national governments, women's NGOs, private sector companies, and the international community have implemented programmes and projects that expand women's ability to enjoy fully and equitably access to these opportunities, there is room for considerable improvement.

An important contribution of this report is that it presents a body of evidence outlining how the intersection of gendered social relationships, gender discrimination, and gender-blind ICT policy processes (those that do not specifically take into account different effects on women and men) **undermine women's access to opportunities in the emerging knowledge and information society and also diminish the potential of ICT to be an effective tool for the promotion of gender equality**. The report identifies specific challenges, such as women's uneven and unaffordable access to ICT

facilities and services; inadequate provision of relevant content and applications, particularly in local languages and adapted to the needs of non-literate women; effects of lack of gender awareness on the part of ICT decision-makers, particularly in terms of allocation of budgets for ICT projects; and relatively poor performance of the ICT sector, in comparison with sectors such as environment, water and sanitation, small- and medium-enterprise development, health and education, in using specific policy or regulatory mechanisms to promote gender equality. The report and related studies also identify the negative effects of persistent gender discrimination in labour markets, in education and training opportunities, and allocation of financial resources for entrepreneurship and business development on women's opportunities in ICT. The evidence analyzed here also shows that women are underrepresented in all aspects of decision-making in operations, policy and regulation, which has slowed the pace at which attention to gender perspectives is being realized. Although the majority of the world's women face these serious threats, policy in this arena continues to treat gender issues as being non-existent or unimportant.

The report attempts to present **coherent and strategic responses to the challenges that face women in the ICT area.** These focus on mainstreaming gender equality in ICT policy, including through legislation and other measures; facilitating participation by a wide range of stakeholders, in particular gender advocates and women, in ICT policy processes; and mobilizing resources for ICT projects and programmes that further the interests of girls and women. The report also notes the need to increase access to educational and training opportunities for girls and women and to expand women's participation as employees, business managers and entrepreneurs in the ICT sector. Improving women's access to health care and education services through expanded use of ICT channels, and strengthening women's use of ICT for political participation, advocacy and networking are also prioritized. Furthermore, women's enjoyment of human rights in the information society needs to be aware of and respond to the specific risks posed by ICT-mediated gender-based violence and human rights violations, including Internet-based trafficking in women.

The message of this report is that **there is an urgent need to ensure that women enjoy the myriad potentials for social and economic empowerment offered by ICT and participate effectively in all aspects of the ICT field**. The recommendations suggest that different stakeholders can make a meaningful contribution to achieving this goal; the achievement of which contributes to promoting

gender equality as well as furthering progress in eradication of poverty, promotion of peace and security and the enjoyment of human rights. The convening of a World Summit on the Information Society (WSIS) by the United Nations system provides a unique opportunity to focus global attention on these issues. All stakeholders must take urgent action to ensure that **gender equality and women's rights are integrated into the WSIS and its follow-up programmes.** Unless these actions are taken, there is a grave risk that the Summit will not succeed in its aim of creating a vision of the information society that contributes to human development.

I. Background and organization of work

A. Background

The role of ICT as a tool for development has recently attracted the sustained attention of the United Nations. In 2000, the Economic and Social Council adopted a Ministerial Communiqué on the role of information technology in the context of a knowledge-based economy. Later that year, the Millennium Declaration underscored the urgency of ensuring that the benefits of new technologies, especially ICT, be available to all. A World Summit on the Information Society, with the ITU as lead organizing entity, will take place in 2003 (Geneva) and 2005 (Tunisia).

While the potential of ICT for stimulating economic growth, social development and political participation is recognized, the benefits are unevenly distributed between and within countries. This has been coined the "digital divide", or "information poverty", to describe the difference between those countries, regions, sectors and socio-economic groups which have the resources and capabilities to access knowledge through ICT, and use ICT for a multitude of purposes, and those lacking such access and capabilities.

Women are increasingly taking advantage of ICT in all spheres of life, thus confirming that ICT can be a tool to promote gender equality and enhance the economic, political and social empowerment of women. At the same time, a "gender divide" within the digital divide is apparent and reflected not only in the lower numbers of women users of ICT, compared to men, but also in the persistence of gender-specific structural inequalities that constitute barriers to access. ICT may also create new forms of inequality between women and men.

The Beijing Declaration and Platform for Action (PfA), adopted by the Fourth World Conference on Women in 1995, drew attention to the emerging global communications network and its impact on public policies, and private attitudes and behaviour. It called for the empowerment of women through enhancing their skills, knowledge, access to and use of information technologies. The twenty-third special session of the General Assembly, held in June 2000 to review progress made in implementation of the Platform for Action, recognized the increased opportunities created by information and communication technologies (ICT) for women to contribute to knowledge sharing, networking and electronic commerce activities. It also noted that

poverty, lack of access and opportunities, illiteracy, including computer illiteracy, and language barriers prevented some 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.

Little work has so far been done at the international level to understand the relationship between ICT and gender equality, the gender dimensions of access to, and use of ICT, and how ICT can indeed become a tool for the promotion of gender equality. As the potential of ICT for development has now become a focus of attention, this is the most opportune time for clarifying the gender perspectives in ICT so that such perspectives can be integrated from the outset into all aspects of this new sector.

The Commission on the Status of Women, as part of its multi-year programme of work for 2002-2006, will consider 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" as a priority theme at its session in 2003. This will be the first time that the Commission will give in-depth consideration to the question of ICT and the empowerment of women.

The Division for the Advancement of Women, in cooperation with the International Telecommunication Union (ITU) and the United Nations ICT Task Force Secretariat, organized an expert group meeting (EGM) on "Information and communication technologies and their impact on and use as an instrument for the advancement and empowerment of women". The meeting considered four themes, namely national ICT policies and gender equality; ICT as an instrument for participation; ICT as an instrument for enhancing women's capabilities; and ICT as an instrument for women's economic empowerment. The experts adopted recommendations covering these aspects, addressed to Governments and other actors at national and international level.

B.   Organization of work

Participation

The expert group meeting on "Information and communication technologies and their impact on and use as an instrument for the advancement and empowerment of women" was held in Seoul (Republic of Korea), from 11 to 14 November 2002, at the Korean Women's Development Institute. It was organized by the United Nations Division for the Advancement of Women, Department of Economic and Social Affairs (DAW/DESA) in collaboration with the International Telecommunication Union (ITU) and the UN ICT Task Force Secretariat. Hosted by the Government of the Republic of Korea, the meeting was attended by 10 experts from different regions, 21 observers (5 from the United Nations system, 6 from the Government of the Republic of Korea, 1 from the Government of Canada and 9 from civil society), one consultant, and representatives of the organizing entities (see annex I).

Documentation

The documentation of the meeting comprised of:

- one background paper prepared by the consultant
- one report on the online conference conducted by the DAW
- ten papers prepared by experts
- five papers prepared by observers
- other documents (see annex II).

This report and all documentation relating to the meeting are available on-line at the DAW website: http://www.un.org/womenwatch/daw/egm/ict2002/index.html

Programme of work

At its opening session on 11 November 2002, the meeting adopted the following programme of work (see annex III):

Opening of the meeting

Election of officers and adoption of the programme of work

Introduction to the meeting

Presentation and discussion of experts' papers

Working groups on:

- Creating an enabling environment for gender equality in ICT
- ICT and economic empowerment in the service of gender equality and sustainable human development
- Social empowerment through the use of ICT

Introduction of draft recommendations and report in plenary

Adoption of final report and recommendations

Closing session

Election of officers

As its opening session, the meeting elected the following officers:

Chairperson: Shafika Issacs (South Africa)

Vice-Chairperson: Chat Ramilo (Philippines)

Rapporteur: Sonia Nunes Jorge (Portugal)

Opening statements

The meeting was opened by Ms. Christine Brautigam, Acting Chief, Gender Analysis Section, Division for the Advancement of Women, who delivered a message sent by Ms. Carolyn Hannan, Director, Division for the Advancement of Women. In her message, Ms. Hannan expressed her gratitude to the Government of the Republic of Korea and the Korean Women's Development Institute (KWDI) for hosting the expert group meeting. She highlighted that ICT were reshaping the world of work and commerce, learning, governance, as well as the interactions between different sectors and groups in society. While noting the opportunities, Ms. Hannan also cautioned that ICT could exacerbate existing gender-based inequalities, or even create new forms of inequality between women and men. The experts were therefore called upon to focus on the gender dimensions of the digital revolution, so as to ensure ICT could become a central tool for women's empowerment and the promotion of gender equality. While the Beijing Declaration and Platform for Action, adopted at the Fourth World Conference on Women and the outcome document of the twenty-third special session of the General Assembly contained some recommendations for action to that end, the Commission on the Status of Women in 2003 would, for the first time, give in-depth consideration to this subject. The task before the expert group meeting – to develop recommendations for different actors, at different levels - was thus particularly important. The output of the meeting would form the basis for the Commission's deliberations, and would also contribute to the World Summit on the Information Society. The report of the five-week online discussion on the topic which the Division for the Advancement of Women had organized earlier in the year, should prove helpful to the meeting.

Ms. Sung-Ja Chang, Assistant Minister for Gender Equality, delivered a statement on behalf H.E. Ms. Myung-Sook Han, Minister for Gender Equality, and welcomed the participants. She highlighted the need to forge new public policies to lead the ICT revolution in the direction of women's development, and to bridge not only the digital divide but also the gender dimensions of the digital divide. Without proper attention, persistent gender-based inequalities in access to and use of innovative ICT could widen. Innovative policy-making and implementation were a means for making ICT a powerful tool for advancing women's status, promoting gender equality, and enhancing women's economic, political and social empowerment. Noting that these were top priorities of her Government, the Minister drew attention to legislative measures and initiatives such as her Ministry's "Women Net" portal, and human resources development through virtual training for women. She looked forward to the innovative and practical policy recommendations the experts would develop.

Ms. Ha-Jin Jang, President of the Korean Women's Development Institute (KWDI), welcomed the participants to the KWDI, a research institute supported by the Government. The Institute's mission was to support the establishment of a gender-equal society through the social participation of women, the promotion of women's welfare and the development of women's capacities. Its research findings supported the mainstreaming of gender perspectives in all sectors of the Government. As ICT had generated a gap between the haves and the have-nots, this phenomenon could become an obstacle to social integration. Women's participation in the economy had been essential to increase the wealth of societies and improve productivity. Equal opportunity to share in the benefits of the digital revolution was now critical so as to transform the digital divide into a "digital opportunity". To reach that goal, Ms. Jang called for partnerships between women's associations and governments to identify the causes, and eliminate the gender digital divide.

Ms. Ingunn Yssen, Senior Adviser on Gender Issues, International Telecommunication Union, saw the meeting as an opportunity to propose solutions for bridging the gender digital divide, and to reinforce the link between ICT and the achievement of the Millennium Development Goals. Ms. Yssen pointed out that achievement of gender equality was still not perceived as a priority, yet without women's participation in decision-making in all spheres of life and at all levels of society, poverty could not be eradicated nor could fully democratic societies be created. ICT were a tool, and depriving women of this tool would reduce countries'

competitiveness in the global market. While the ITU Plenipotentiary Conference had taken a strong position on the role of ICT and WSIS, women were still seen as vulnerable and victims. The outcome of the expert group meeting would also serve as an input to mainstream a gender perspective into the World Summit on the Information Society.

Ms. Anne-Isabelle Degryse-Blateau, United Nations Resident Coordinator in the Republic of Korea, highlighted the importance of gender equality in the framework of globalization. While ICT could reinforce existing inequities, they also had the potential to bridge development gaps, and promote gender equality. She noted the important steps taken by the Republic of Korea in putting ICT at the service of gender equality. In emphasizing that ICT as well as gender equality were two critical cross-cutting issues on UNDP's agenda, Ms. Degryse-Blateau called on the experts to provide practical recommendations that would enhance the capacity of ICT to work for women.

II.   Analytical summary of the discussion

If women are to reap the benefits of the information society, it is vital to integrate gender perspectives in all aspects of ICT development and policy. In fact, no country can successfully achieve development goals and priorities when over 50 percent of its population are not given the opportunity to effectively participate in the information society. Only through a process of informed interventions can an ICT environment be built that truly enables women's participation in and use of ICT, while also being a tool for the advancement and empowerment of women.

Background

The meeting heard DAW consultant Gillian Marcelle, who provided an overview of the context for the meeting and presented a proposed conceptual framework to facilitate the integration of gender equality within the ICT revolution.

There is great need for analysis and ongoing research on gender and ICT issues. While some organizations have recognized the importance of gender in ICT, this has not resulted in the inclusion of gender concerns on the policy agenda.   Participants agreed that gender advocates must focus on specific action-oriented recommendations and that gender advocates (including, among others, women's organizations, women politicians, practitioners and researchers) must work together to make a strong case for gender equality in ICT.

National ICT policies and gender equality

The meeting heard three expert presentations on this item. Nancy Hafkin provided an overview of gender issues in ICT policy in developing countries, Chat Ramilo presented an Asian perspective and Gloria Bonder a perspective from Latin America. Their presentations and subsequent discussions highlighted the following main issues.

While ICT policy tends to focus on technology, it must also consider the social and economic impact of ICT, which is by its very nature gendered. It is clear that, because ICT, and technology in general, are not gender-neutral, ICT policy and projects must integrate gender perspectives. A detailed review of ICT policy issues from a gender perspective is contained in appendix I of this report.

The case for gender analysis and gender perspectives in ICT is greatly hampered by the current lack of sex disaggregated statistics and indicators. In addition, the majority of policy-makers lack an understanding of gender analysis and consequently fail to integrate such analysis in the policy process. Regional overviews of ICT policy initiatives show that much remains to be done to include gender perspectives in the ICT agenda. For example: when gender is mentioned, it is still an "add-on" afterthought; women are wrongly considered minorities; and most policies are silent on gender issues. A few countries in Africa have taken valuable steps towards gender equality in ICT policy (South Africa, Cote d'Ivoire and Guinea) and in Asia, the Republic of Korea has set an important precedent by establishing a proactive ICT policy towards gender equality.

In order to move towards gender equality in ICT for development, it is urgent to:
- Sensitize policy makers to gender issues;
- Ensure that gender advocates educate themselves about ICT policy issues and get involved in the policy process; and
- Develop a substantial body of evidence to demonstrate the links between gender and ICT for development.

Furthermore, experience shows that specific governmental commitments to gender equality set the stage for the adoption of transformative strategies that aim at mainstreaming gender perspectives in all policy areas, including the many areas where ICT policy is present and relevant (e.g., gender equality policy, rural development policy, education policy, health policy, universal access policy, ICT policy, among others). There is also a need to use a rights-based approach to ICT policy development to work towards securing universal access to ICT and, consequently, promote and facilitate the use of ICT for women's empowerment.

ICT as an instrument for participation

Two expert presentations were made on this item. Fatimata Seye Sylla presented examples from Africa, and Malgorzata Tarasiewicz illustrated women's participation in the EU accession process. The following main issues emerged from their presentations and the subsequent discussion.

Current levels of infrastructure deployment as well as cost of access to ICT throughout the developing world create an enormous barrier to women's use of ICT as an instrument for participation in all aspects of social, cultural and economic life. However, recent experiences throughout Africa, Eastern Europe, Asia, Latin America and the Caribbean illustrate ingenious and creative solutions to provide access to ICT, to use ICT as a tool for participation and most importantly, to contribute to women's advancement and empowerment. For example, the Multimedia Caravan project in Senegal exposed rural women to the benefits of ICT for development and provided the opportunity for women 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 on using the Internet to learn new weaving techniques and develop 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 disseminates information to enhance women's participation in the EU accession process in EU candidate countries. These projects also illustrate the scope of ICT, and clearly show that such technologies as radio, TV and CD ROMs are perfectly acceptable, and in many cases more effective ICT, than web-based solutions, as they can resolve issues such as language, illiteracy or access to the Internet.

ICT have been extensively used as a networking and advocacy tool. The goal is to enhance interaction with, and influence, Government institutions and ICT provide a powerful tool to strengthen women's capacity to participate in civil society and the public sphere in general.

ICT as an instrument for enhancing women's capabilities

The meeting heard three experts on this topic: Gillian Kirkup presented the conceptual and practical issues of ICT as a tool for enhancing women's education opportunities; Shafika Isaacs discussed the educational use of ICT as exemplified by the experience of SchoolNet Africa; and Young-Joo Paik reported on the Republic of Korea's programme on ICT education for women. Their papers and the subsequent discussion revealed the following main issues.

Education and training are key areas where ICT have a two-fold role: on the one hand, ICT are used as a tool to improve and facilitate education, including access to education. On the other hand, education and training in ICT and its related fields are crucial to ensure that women can take advantage of career opportunities in this field and use ICT effectively to enhance their capabilities - for personal use, as producers and consumers of ICT. Despite the benefits women and girls can accrue from enhanced ICT capabilities and training, it is important to be aware of some pitfalls:

- The tendency to use training in ICT as a means to perpetuate traditional roles rather than creating empowering opportunities for women;
- The tendency to equate ICT mastery with masculinity;
- The tendency to cluster ICT-trained women in lower-paying technology-related jobs (e.g., telephone and call center operators, data entry clerks);
- The tendency to train women to fulfill specific business demands (such as ICT training to complement other activities) instead of providing educational opportunities that lead to strong technical capabilities and related career opportunities (e.g., support for women in science and technology, such as ICT engineering and policy areas); and
- The tendency to provide additional training and learning mechanisms as added burden on women's time – the problems of the "Third Shift."

With respect to early education, the extent to which ICT add pedagogical value to education is still unclear. However, if students are to be prepared to work in the information society, they need certain skills and knowledge to effectively participate and make choices as productive members in society. This uncertainty leads to the question of priorities for schools in developing countries, where school buildings, electricity, and access to books and materials remain a major concern. At present, most ICT programmes fail to address gender concerns. The experience of SchoolNet Africa illustrates these issues and clearly demonstrates that the use of ICT in early education greatly enhances capabilities and provides opportunities for students' and teachers' active participation in the development of local content. Their often precarious funding situations present major concerns for their sustainability and leadership.

ICT training for workers in the formal or informal sectors and for unemployed women can provide women not only with a tool to enhance their capabilities, but also with the means to develop new work and business opportunities. The policy of the Government of Korea to train housewives as well as women working outside the home

on strategic ICT use is an example of how government initiatives can contribute to increased productivity and employability of the work force, as well as provide an environment for business development opportunities, such as the creation of business incubator programmes. Such programmes also ensure that women have opportunities to develop necessary skills to use ICT for their own advancement and empowerment.

ICT as an instrument for women's economic empowerment

Two expert presentations were made on this item: Sonia Jorge discussed the challenges and practical strategies of ICT use for women's economic empowerment and Rita Mijumbi presented the case of the locally developed CD ROM by rural women in Uganda. Their presentations and subsequent discussions identified a number of key issues, discussed below.

The CD ROM entitled "Rural Women in Africa: Ideas for Earning Money" is an example of a response to the needs of rural women for, and access to, information. By providing access to information, in the local language and addressing the specific development priorities of rural Ugandan women, the CD ROM project has contributed to their economic empowerment and demonstrated that ICT can be used in creative and effective ways.

Other programmes and initiatives have demonstrated how ICT are 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 Dominican Republic, particularly for women in the informal sector.

Notwithstanding these solutions, availability and access to the necessary facilities remain major concerns. Even a project such as the CD ROM requires access to a community telecenter 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.

To address the enormous challenges associated with lack of access to telecommunications infrastructure and ICT, the cost of access, language and content limitations, as well as illiteracy levels, community access to ICT are a major issue for

ICT policy and programmes. When properly planned, this kind of access strategy not only takes advantage of affordable technologies (e.g., wireless) but can also resolve such issues as location, availability of funds or special service tariffs, the development and training needs of the community it serves, and the gender dimensions and constraints associated with each type, and use of technology.

Another way of providing access to ICT can be by using a business case scenario, that is, a scenario where any type of access point be managed as a fully sustainable business enterprise. While there is agreement that this may be possible in some cases (particularly in urban areas), it is also agreed that it is not as viable a solution for rural and poor areas, where incomes are extremely low and demand takes time to develop. Lack of a sustainable business solution should not preclude the provision of access, and alternatives are needed to make universal access a reality.

III.   Rationale for gender equality in ICT

ICT for development

The ICT revolution opens vast new opportunities for economic growth and social development but also poses challenges and risks. While bringing important economic and social benefits, it can at the same time further widen disparities between and within countries. In considering the impact of ICT on the creation of a global knowledge-based economy, it is worth noting that the majority of the world's population still lives in poverty and remains untouched by the ICT revolution. The emerging new economy, characterized by a rapidly increasing reliance on value creation through information and knowledge, remains heavily concentrated in the developed countries. Unless access to and use of ICT is broadened, the majority of people, particularly those living in developing countries, will not enjoy the benefits of the information revolution that is transforming the way that production is organized and information is shared around the world.

> ***Definition of scope of ICT***
>
> *Information and communication technologies (ICT) comprise a complex and heterogeneous set of goods, applications and services used to produce, distribute, process and transform information. The ICT sector consists of segments as diverse as telecommunications, television and radio broadcasting, computer hardware and software, computer services and electronic media (e.g., the Internet, electronic mail, electronic commerce and computer games) as well as the content of these media.*

ICT provide unique opportunities for economic growth and human development. They can shape and enhance a wide range of development applications —

> **Production of gender knowledge**
> ICT enable the production of different experiences of being human, and consequently new and different knowledge about ourselves and the nature of gender. They expand the possibilities of human identity.

from electronic commerce to access to financial markets; from generating employment to providing opportunities for investment to entrepreneurs, in particular small and medium-sized enterprises; from improved agricultural and manufacturing productivity to the empowerment of all sections of society; from long-distance education to telemedicine, from environmental management and monitoring to prevention and management of disasters. The potential

to help foster sustainable development, empower people – women and men, the young and old -, build capacities and skills, assist small- and medium-sized enterprises, reduce poverty, and enhance participation and informed decision-making at all levels is enormous. The promotion of ICT should not be a substitute for the efforts to ensure the development and modernization of basic sectors of the economy but should complement and enhance these efforts.

Why women and ICT

ICT are far more than a sector. They are a phenomenon reshaping the nature of global economic, social and political life. It is the centrality and importance of this phenomenon that mandates that women and men have equal opportunities to shape, access, use and master it. The arguments that establish this can be based on a belief in the greatest good for the greatest number, as women are the majority of the world's population; on a human rights approach to ensure the rights of all, including the rights to non-discrimination and to communicate; on a business case approach that shows that endeavours are more successful when gender perspectives are taken into account; on a poverty eradication approach that increases the capabilities and choices of the poorest; or by pointing to the commitment to gender equality - reiterated in the United Nations Millennium Declaration - as a goal in itself, and as a means to combat poverty and achieve sustainable development.

It's HOT for Girls![1]
Beyond nimble fingers . . .   **Comparative advantages of women in the new technology**:   Women are communicators   Women make connections   Women have always multi-tasked   Women open windows!

While women in several OECD countries have achieved parity with men in use, their numbers are few in developing countries. Examination of ICT areas beyond usage reveals other aspects of a gender digital divide:

> "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

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[1] The Chair of the EGM encountered this sticker on a computer in an African SchoolNet country. Boys have written over the "H" with an "N" and left it as "It's not for girls." The consensus of this meeting was that ICT are indeed HOT for girls.

licenses are attributed to companies without equal opportunity policies and controlled mostly by men" (Jorge 2001).

The presence of women in the ICT arena does not guarantee attention to gender issues. All actors in ICT have the responsibility and capacity to ensure attention to gender equality concerns in the use and impact of ICT.

Gender mainstreaming in ICT

ICT are not gender-neutral. Like any other technology, they are socially constructed, and impact men and women differently (Hafkin 2002, Mitter 1995). Globally, there are substantial differences between women and men in access to and impact of ICT. Global patterns of inequality between women and men, as reflected in women's political participation and their representation in decision-making structures; differences in women's and men's economic opportunities, access to resources, and division of labour within the economy; women's over-representation among the poor; their higher levels of illiteracy; the persistence of stereotypical attitudes about women's roles and of discriminatory laws and practices, are among the factors that also shape women's capacity of access to and use of ICT.

In most cases, the optimal intervention is the application of a gender perspective to ICT from the start (Jorge and Hafkin 2002). Applying a gender perspective to ICT means assessing the implications for women and men of policies, programmes and projects to ascertain how opportunities, benefits and risks accrue to women and men differentially based on their socially constructed roles. Focus on the gender dimensions of ICT is essential not only to prevent adverse impact of the digital revolution on gender equality or perpetuation of existing inequalities and discrimination, but also to enhance women's equitable access to the benefits of ICT and to ensure that ICT can become a central tool for women's empowerment and the promotion of gender equality. Policies, programmes and projects

ICT are good for women
ICT facilitate new techniques of presentation - because of the flexibility and interactivity of the medium and the possibility of adapting it to the social context. That makes it easier to reach women across the world, speaking various languages and at various levels of education and skills.

need to ensure that gender differences and inequalities in ICT access and use are fully addressed so that ICT actively promote gender equality, and ensure that gender-based disadvantages are not created or perpetuated. Such a perspective should enable the reduction, if not elimination, of the gender divide in the digital divide.

The converse is that "if you don't specify gender, you don't get gender". Most programmes and projects do not consider gender aspects as important components in programme and project design and, consequently, fail to include both men and women equitably (Jorge and Hafkin, 2002).

Success in integrating gender perspectives will require commitment of financial and human resources, capacity building, top leadership support and a change of agendas, practices and attitudes at all functional levels. It will also be necessary to periodically collect data on gender and ICT trends, impact of ICT on gender equality, women's participation in the ICT sector, including at decision-making level, and to closely monitor trends over time. The effort will be painstaking but the rewards will be enormous for the advancement and empowerment of the world's women and their families.

Women in telecommunications decision-making structures
Data show that in the telecommunications standardisation work of the ITU, over the period 1997-2000, only 8% of delegates, 7% of rapporteurs and 4% of chairpersons have been women. In the radiocommunications area of the ITU's work, over the same period, out of 132 appointments to decision-making positions, only three went to women. Since the ITU organizes its work through conferences, study groups and advisory bodies, these figures represent a serious imbalance. Despite this slow start, ITU made history in 1999 by appointing the first woman to chair the ITU Council, the highest decision-making body outside the elected officials of its Secretariat.
Source: Gillian Marcelle, "Transforming ICT for Gender Equality", UNDP Monograph 2000, based on ITU data.

Without explicit attention to gender-based inequalities, men and women will not have equal opportunities to enter the information age. Without explicit gender analysis and incorporation of the results into policy, programmes and projects, it is unlikely that the results will have positive impact on women. The benefits of ICT may bypass women even if their countries develop adequate information infrastructure and service delivery (Marcelle 2000). Without direct intervention, gender equality will not occur.

IV.   Creating an enabling environment for gender equality in ICT

i.   Context

Creating an enabling environment for gender equality in ICT means to establish and promote policies and programmes that will lead to the social, economic and political empowerment of women through the use of ICT.   Making ICT policy gender-sensitive is an area of great importance in securing the benefits of the information age for girls and women.   Gender concerns and objectives need to be articulated in ICT policy, otherwise it is unlikely that girls and women will reap the benefits of the information society.   As illustrated in appendix I, all areas of ICT policy are gendered (e.g., access, infrastructure, tariff, technology, regulation, e-government, etc), and if gender perspectives are not integrated in the policy process, policy will simply not address the gender dimensions of the issues and will continue to have a differential impact on women and men.   Furthermore, the increasing gender digital divide within and among countries warrants urgent attention and commitment to gender equality in ICT.

Recent evaluations of ICT projects show that there is no such thing as a gender-neutral ICT policy. A study of hundreds of development projects, either with ICT as the major sector or with substantial ICT components, showed that more than one-third of all projects had a high degree of awareness of gender issues, but that gender-sensitivity was carried over to the ICT components in only 10 percent of the projects (Hafkin, 2002). Unless governments and decision-makers pay explicit attention to gender in ICT policy, gender issues will not be considered in implementation. Neither does the existence of a gender equality policy *per se* obviate the need to spell out gender issues in every sectoral policy. In fact, evidence shows that because gender analysis is absent, policy-making in technological fields neglect the development needs and priorities of women.

Therefore, it is of the utmost importance to create an enabling environment for the use of ICT as an instrument for the advancement and empowerment of women. Such environment includes, among other things, national policies on gender equality as well as sectoral policies that include gender equality objectives. Specifically, this enabling environment should facilitate and lead to:
- Inclusion of gender equality and development goals in ICT policy;
- ICT policies that reflect gender perspectives and recognize that technology policy is not gender neutral;

- Policies that result in change towards equal gender relations;
- Policies that recognize the diversity of women and their roles as producers and consumers of ICT;
- Policies that address differential impact of ICT on women an men, and consequently respond to the different development needs and priorities of women throughout the life cycle;
- Adaptation of technologies to the needs and realities of women;
- The reaffirmation of the right to information, as contained in Article 19 of the Universal Declaration of Human Rights;
- The acceptance of communication as a right and a public good;
- The creation of universal opportunity to access ICT through ICT education, training and information.

To create an enabling environment, ICT policy processes must integrate gender analysis at all stages of their development, from the initial design to implementation, monitoring and evaluation. This requires an analysis of the current status of women and men's participation in, and use of, ICT, including a comprehensive analysis of sex disaggregated statistics and indicators and policy responses that target gender-based differences and inequalities. In addition, the policy process itself needs to be inclusive and consultative through the participation of stakeholder groups representative of the full spectrum of society, including gender advocates.

ii.   Opportunities

There are enormous opportunities for women in ICT: as users of technology, participants in civil society, producers and consumers of ICT. Later sections of the report show that the opportunities for women's economic and social empowerment through ICT are too great to be dismissed. It is the role of decision-makers and advocates in ICT to work towards building an environment where those opportunities are realized.

Policy makers have the responsibility to, among other things, ensure that affordable universal access to ICT in all areas of the developing world (particularly rural and peri-urban areas) becomes a reality, rather than being an utopian dream. It is clear that ICT can have a crucial role in development efforts but the opportunity will be missed if women are not provided the tools and skills to effectively participate in their countries' development efforts.

iii.   Challenges and risks

There are great challenges in creating an enabling environment for gender equality in ICT; however, there remain challenges to be overcome in this area. They include:

Engendering ICT policies. There is little understanding of the relevance of gender issues in ICT in general. Most national ICT policies are generally silent on gender issues and do not address gender equality goals. It is therefore vital to convince policy makers in the ICT area on the benefits of integrating gender equality in ICT policies.

Active participation of stakeholders in the policy process. Decision-making bodies generally only include government and corporate interests in the policy making process. There is a need to be inclusive and allow participation of all stakeholders, including gender advocates, in all levels of decision-making in ICT policy. Gender advocates need to undertake self-education in gender analysis of ICT and become actively involved in national ICT policy making.

Building constituency. There is little awareness and knowledge about the significance of ICT for development as well as the gender dimensions of ICT. There is a need to build constituencies for gender equality in ICT development within civil society and government, especially within national machineries for the advancement of women and government bodies involved in all aspects of ICT.

Mobilizing resources. Policy development to integrate gender equality in ICT policies needs to be supported by adequate resources, such as the ability to conduct research and analysis that demonstrates the impact of ICT policies on gender equality as well as the human resource capacity to ensure that gender analysis is fully integrated in the ICT policy process. This requires investment in capacity–building efforts, including training and increased education opportunities for women to obtain ICT skills.

iv. What has worked

Experience demonstrates that not only is it possible to be gender focused but such a focus greatly improves the intended impact of policy on women and men. The following table briefly describes recent examples of activities that have worked towards creating an enabling environment for women's advancement and empowerment through the use of ICT.

r national ICT infrastructure development - Guinea
nly African country with a national ICT po
hensively covers the inclusion of gender issues.
nce of the full inclusion of gender issues as nece
atory, equitable human development. The national
ations and Guinean civil society are mandated to be in
entation of the plan.

the alleviation of the digital divide- Republic o
ongress adopted legislation in 2001, propose
y of Information and Communication, on the digi
note gender equality in ICT, with special inc
ed access to ICT for housewives.

or Women's Informatization, Ministry of y - Republic of Korea
inistry of Gender Equality developed a basic
's informatization (2002-2006) which includes
-net and establishing a volunteer network to
's access to information, retraining working wor
ions with high employment potential and
onal online IT education for women; and s
's organizations in promoting the national IT secto
ministries have allocated budgets for wome
on.

he Internet to affect social policy - Canada
dian NGO, Womenspace, is implementing a two-year
e online capacity of women's equality-seeking organi
ate in developing and implementing policy. The projec
collaborative principles and utilizes a web site and a p

v. Priorities and strategies

In order to focus the efforts towards creating an enabling environment, it is important to identify specific priority areas. Two areas require particular attention: 1. integrate gender in ICT policy; and 2. engage women as active stakeholders in the information society. The following are specific strategies to address these priority areas.

1. Integrate gender in ICT policy:
   - Demonstrate the differential impacts of ICT on women and men
   - Build skills among policy-makers to ensure gender equality in ICT for development
   - Ensure that gender advocates educate themselves and get involved in the policy process
   - Analyze and revise existing ICT policies to reflect a gender perspective
   - Inclusion of all stakeholders in the ICT policy process
   - Build constituencies for gender equality in ICT development
   - Mobilize resources
   - Build critical mass of gender and ICT specialists

2. Engage women as active stakeholders in the information society:
   - Create awareness and promote ICT as a tool for development
   - Build ICT skills for women and girls
   - Create universal opportunity to access ICT
   - Encourage the development of content that is relevant to women.

# V.	ICT and economic empowerment in the service of gender equality and sustainable human development

### i.	Context

The world economy is in the midst of profound transformation from an industrial society to a global economy for which ICT is an accelerating force. While globalization has brought opportunities in many places, it has also reinforced previous inequalities and created new ones.

From its origin in developed countries, globalization has not been distributed equally across developing regions, but rather has affected Asia first and most heavily, followed by Latin America and the Caribbean as well as Central and Eastern Europe, where political transformation concomitant with globalization lead to increasing poverty. Africa is the region least affected by these changes. Globalization has accelerated the growth of a global, networked elite and of an excluded layer that exists in the most developed geographic regions and contains a disproportionate number of women.

What kind of information society do women want?

ICT offers the potential for facilitating a diverse, inclusive globalization, with increased opportunities for women and others presently excluded, in a more just world. ICT is a social construction that can be remade to serve societal goals - increasing growth, improving social equity and strengthening democracy. The information society holds great promise for the economic empowerment of women. Women's contribution can enrich this socially constructed technology; the lack of women's contribution weakens it. Women need to know the opportunities that ICT can bring and get beyond the fear of using it.

Women need affordable technology to increase access and opportunities. They need to occupy higher-level roles in the information society. Technologies such as wireless and Internet combined with more traditional technologies have an important part to play in these efforts.

Where are women now in the information economy?

Women are concentrated in end-user, lower-skilled ICT jobs related to word processing and data entry and make up small percentages of managerial, maintenance and design personnel in networks, operating systems and software. More women are becoming software programmers but very few are in hardware design.

Women comprise the majority of those employed in computer and electronic assembly manufacturing jobs, but the first generation of women workers in ICT industries, first in developed and now in developing countries, are not being trained for new, more advanced jobs. New ICT jobs for women are in the service industries in information processing, banking, insurance, printing and publishing. Outsourcing jobs for women, notably in India, the Philippines and the Caribbean, but newly in Africa, are in call centers, information services, and data entry, as well as geographic information systems (GIS) and software programming. In many countries women are moving increasingly into Web development and design. However, few women are ICT entrepreneurs and there is a need for appropriate and affordable technologies for women entrepreneurs. Women have not reached high-level positions in information technology - in technical and managerial or at decision-making levels. The concentration of economic power in global multinational firms has not increased leadership opportunities for women.

ii.   Opportunities

ICT offer economic opportunities (both in salaried employment and entrepreneurship, in the ICT sector itself, and in jobs enabled by ICT in all sectors) at all levels. In developing countries there are growing possibilities for outsourced service-sector jobs. Globally IT-enabled communications businesses offer possibilities of entrepreneurial opportunities for women. The technology inherently makes possible flexibility in time and place that offers great possibilities for women in view of their multiple roles. The sector also gives the possibility for women everywhere, despite their location, of connection to the global economy through e-commerce as producers and distributors of goods and services. For this, women need management capability, trade infrastructure, credit, and an enabling policy environment. ICT-enabled information access can break the isolation of rural women, giving them the knowledge to make decisions to improve their economic situation. ICT provides virtual space and linkages that favour small-scale enterprises, where women's entrepreneurship is more frequently found.

iii.   Challenges and risks

While ICT offer many new opportunities for women, in order to take advantage of them many women have to overcome significant obstacles. The sector in itself is fraught with risks that affect women as they enter it.

Education and skills. Women's high rates of illiteracy and lack of ICT training prevent them from entering the information economy. The English-language dominance of ICT in software and in content affects women more, as women globally are less likely than men to know English.

Cultural, social and economic constraints. Even where women have the necessary skills, persistent cultural constraints, such as stereotypical views of the roles of men and women 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 men's and women's multiple roles, and labour laws may prevent women's full participation in the information economy. It is important to note, however, that even teleworking opportunities may inadvertently lead to getting women back in their homes and further adding to their multiple roles. Inequitable global terms of trade have resulted in low wages and poor working conditions for many women working in offshore ICT manufacturing. The high risk of unemployment in the ICT sector, frequently combined with unfavourable labour contracts, produces hardship for women working as ICT professionals. Some highly profitable aspects of the ICT economy (pornography) sexually exploit women.

Access to infrastructure is a gender issue. As more women, particularly in developing countries, tend to live where infrastructure is poorly distributed or not available at all, such infrastructure imbalances may adversely affect many women, particularly those in poor urban and rural areas, from using the economic opportunities of ICT. The costs of technology and access also present barriers to many women in developing countries using the technology for economic advancement.

Partnerships. New partnerships are needed for the development of digital economic opportunities with new development partners such as academic institutions, private sector, and venture capital funds.

iv.   What has worked

A number of projects from around the world illustrate the ways that ICT are contributing to women's economic advancement and empowerment.

Rural women in Africa: Ideas for earning money – Uganda

Can poor, largely illiterate women in rural Africa benefit from new information and communication technologies? Women in the Nakaseke region of Uganda are answering yes. In a 1999 needs assessment, a sample of rural women living near the Nakaseke Telecentre said they needed more information to assist them in income-generation and marketing food crops and other products and finding prices for food and crafts in nearby markets. With funding and support from IDRC, the International Women's Tribune Center designed a CD-ROM (in view of limited and costly Internet connectivity in rural Uganda) of ICT-based learning materials about microenterprise, in a highly audio-visual package using local languages and easily accessible to women with low literacy skills.
Women in the area are now coming to the Telecentre and using the CD-ROM enthusiastically. They are increasing their flocks of chickens, using the proceeds to increase their land holdings and selling surplus food. Some are saving to acquire mobile telephones so that they can access market prices daily and make better decisions about their marketing. 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.

Rural women - Senegal
http://www.manobi.sn

The Senegalese telephone company Sonatel and Manobi, a French company, have provided cell phones with Web Access Protocol (WAP) access to the Internet to rural women agricultural producers in Senegal to help them get information about market prices of their inputs for their food processing activities and for their produce. The women prefer the cell phone to a computer because they can carry it around. Women in the project are happy with the economic benefits of the technology, and other women are clamoring to become part of the project.

Training African women in Internet networking technology
http://www.uneca.org/itca/cnra/train_partners.htm

An *info*Dev project, implemented by Cisco Systems and the United Nations Economic Commission for Africa, which awards scholarships for young women throughout Africa to come to Addis Ababa for training in Internet networking technology, leading to certification as a networking associate or professional. Courses are held in both English and French, and the curriculum includes training in gender issues and in management. A gender analysis of the project showed that the trainees gained enormously in self-confidence and self-esteem. Eighty-two percent of graduates of the first course said that they planned to enter the ICT field, half of them as entrepreneurs.

Enhancing the readiness of women in small and medium enterprises to utilize learning technologies - Canada
http://www.upei.ca/

This project, sponsored by the University of Prince Edward Island, is developing a training plan to improve the readiness of women SME owners to use information technologies.

Women and high-tech - USA
http://www.dol.gov/dol/wb/hi-tech.htm

The State of New York provides customized computer training tailored to job market opportunities for women living in urban, suburban and rural areas.

Investing in women IT entrepreneurs - Malaysia

A group of government ministries provides loans and grants for women entrepreneurs in information technology in order to increase women's participation in the industry.

Inter-city marketing network for women micro-entrepreneurs – India www.xlweb.com/food/

The inter-city marketing network for women micro-entrepreneurs, being implemented by the Foundation for Occupational Development (FOOD) in rural Tamilnadu, India, is a project of *info*Dev, a multidonor initiative administered by the World Bank Group that promotes the use of ICT for women's economic empowerment. Under the project, community-based organizations in 100 villages are linked to a network by cellular phones. Members of the organizations are women who use the phone to market their products, determine demand and target the production to meet demand within the cellphone network. An evaluation is currently assessing the extent to which women and their families increased their income under the project.

Piloting their future - training young women and men for employability, citizenship and leadership- Latin America

The program was developed by CEM (Centro de estudios de la mujer), based in Argentina, with the support of prolead–bid. It involved 13 women and youth organizations from Argentina, Uruguay, Paraguay and Brazil. More than 600 young people, mostly from poor sectors, received ICT training as a means for increasing their skills, developing gender-aware attitudes and values and getting involved in projects to prepare themselves for active and informed citizen participation, for the integration in the formal and informal labour market and for social leadership at the community level. Some of them have created their own web sites for e-commerce. As a result of the project they created a network called "co-pilots of the future" from where they are promoting new activities and projects. These include:

Prodemu - Argentina
PRODEMU, an NGO in Catamarca, Argentina, trained young women from a poor rural community in ICT in improving the design and marketing of handicrafts made by a cooperative of adult women in the same community. By creating a web page and improving the packaging, they increased their sales and kept young women profitably employed in their community rather than looking for better jobs in cities.

Mujer Ahora –Uruguay
A women's NGO gives ICT training to boys and girls from poor urban areas in building media projects (radio programmes) and graphic design boutiques.

Centro de mujeres comunicadoras Mayas de Ecuador
Uses the Internet to market handicrafts produced by its members and downloads information to improve their production techniques.

Using IT for women's economic empowerment – Republic of Korea
Between 2000 and 2001, the Ministry of Information and Communication trained one million housewives in computer and Internet use. The Ministry of Labor runs computer training for unemployed women, especially those who are heads of households while the Ministry of Education and Human Resource Development has a project to enhance IT skills of girl students from elementary through high school.

The Ministry of Gender Equality has organized programmes at 12 Korean universities for women who want to work in e-business or to start Small Office-Home Office (SOHO) businesses. Asian Pacific Women's Network Center (APWINC) at Sookmyung University trains women to work in IT, including as freelancers and in their own businesses.

The Ministry of Agriculture and Forestry encourages the use of IT by women farmers through onsite and mobile computer education and technical support services. Real-time information on market prices is posted on the web. The web site also operates a shopping mall for agricultural products. Technical assistance is available to farmers in building personal web sites.

Developed by the Kyonggi Women's Development Center in 1998, the Kyonggi Province Programme for women IT professionals

(http:///www.womenpro.or.kr) provides training and lifelong education for women tailored to the different stages of women's lives. Unemployed women, women heads of households and handicapped women who want to enter the work force are trained in business incubation and capacity building (including gender training). About 600 women have completed the 10-12 month course as IT specialists, 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 accommodate their daily schedules.

Facilitating economic activities of women through IT - APEC
The 2nd Ministerial Meeting on Women of the Asia and Pacific Economic Community APEC, (Guadalajara, Mexico, 2002) considered programmes to facilitate economic activities of women through IT capacity building.

v.   **Priorities and strategies**

Targeted strategies in a number of priority areas, including the following, can bring women into the mainstream of the information age and the information economy.

1. Increase educational opportunities for women:
   - Provide increased, strategic and focused investment in training for women to enter the ICT sector and take advantage of ICT-driven economic opportunities
   - Combine economic literacy and ICT literacy to create opportunities for poor rural and urban women in the new, global economy
   - Encourage educated women to acquire ICT skills to increase their economic competitiveness and productivity

2. Increase participation of women in the ICT sector:
   - Promote and recruit more women to decision-making positions in regional and international economic policy organizations, as well as in IT firms and ministries
   - Mobilize more resources for successful ICT-for-women's economic empowerment projects
   - Expand women's participation in the ICT sector and ICT-enhanced enterprises, including by scaling up and sustaining successful pilots, setting up economic-enterprise incubator, and establishing mentoring projects, especially those involving national and regional digital diasporas

VI.   Social empowerment through the use of ICT

i.   Context

Human beings are gendered social actors. People become gendered partly through their engagements with the technologies in their world. This is a complicated relationship, not simply one of technology acting on people but of people and technologies interacting with each other to produce change in societies, cultures and technologies. Women and men engage with new ICT not from a level playing field but

from a position of social and cultural inequality and difference. Recognizing this, it becomes important not to perpetuate present inequalities but to intervene to address these.

ii.   Opportunities

In the social and cultural arena, the particular opportunities that ICT provides are in education, e-learning, health, e-governance and cultural production.

iii.   Challenges and risks

The causes for these challenges are context-specific and are influenced by deep-seated social, cultural and economic factors that explain differential access to ICT, differential capacity to use ICT and the gendered differences in the availability of appropriate content. This explains why, for example, women in the candidate countries for EU accession cannot participate on an equal footing with NGOs in EU countries; why women in general are less able to exercise their rights; and why women are less able to access their right to communicate online. Literacy levels, availability of time, poverty, and lack of economic resources are among the causes for these differences.

E-governance. E-governance offers opportunities for the transformation of governance processes that could be key to women's empowerment and the achievement of gender equality. It can also be a key approach to enhancing women's full and equal participation in public life, particularly for women living in rural or remote areas, or that are otherwise marginalized. But at present, e-governance policies, where they exist, are essentially "gender-blind", they do not recognize the existence of gender gaps in access to government services and political processes.

Education. There is a dearth of information, research and codified knowledge on women and the educational use of ICT in education worldwide. Furthermore, continuing restricted access to education particularly for girls, high teacher-pupil ratios in classrooms, shortage of qualified educators, budgetary cuts in education and limited infrastructure contribute towards a proliferating social crisis in education, especially in the developing world. For example, in Africa, an estimated 45 million youth do not have access to education. Here girls make up the larger proportion of youth out of

school. A recent study revealed that the percentage of female enrolment at primary school in Africa has remained the same at 45 percent and has only shown a one-percentage increase at the secondary level (UNESCO, World Education Report, 2000). The introduction of ICT into this context will increase the gender gap of ICT skills and knowledge.

E-learning. The opportunities provided by Internet-based e-learning in the developed world could undercut the achievements made by women in their participation in higher education in particular, but with women being disadvantaged in ICT access and skills, this limits their participation in e-learning.

HIV/AIDS and health. The HIV/AIDS pandemic is decimating the lives of women and young people particularly in the developing world. According to a UNICEF report, teenage girls are infected at the rate of five to six times the rate of teenage boys. They are also the first to be detained at home to care for ailing relatives. UNICEF estimated that twelve million children in sub-Saharan Africa have lost parents to the disease, a figure expected to double in the coming decade. Not only do children lose their families, they are often plunged into deeper poverty, denied education, forced onto the streets, and into labour. ICT could play an important role in enhancing literacy, building support communities, online counselling and publicizing information across the world but this demands provisioning all women affected by the pandemic. ICT could also be a critical tool in enhancing women's access to information on all health-related issues.

Online spaces. One of the most important democratizing aspects of the Internet has been the creation of private online spaces including secure online spaces for women, protecting them from harassment and enabling them to enjoy freedom of expression and privacy of communication. Utilizing this aspect of the Internet for the development of democracy, particularly in opposing gender discrimination, contributes to overcoming oppression and exploitation. However, government legislation in some countries is threatening privacy and security and this potentially has a greater impact on women than men.

iv. What has worked

Throughout the world some interventions stand out which demonstrate the potential of ICT to break down unequal gender relations and to advance the particular interests of women and girls. This illustrates that some actors have recognized the importance of integrating a gender perspective appropriately into ICT in their particular national frameworks, and of providing an enabling environment for such initiatives to flourish. Examples demonstrate that small scale projects with limited funding can have widespread international impact to address specific issues affecting particular groups of women.

If this kind of activity could be scaled up with the support of major players and larger funding, then the impact on inequality and social injustice would change the face of inequality across the world.

SchoolNet-Africa www.schoolnetafrica.net
National SchoolNets that form part of the SchoolNet Africa network organize email collaborative projects among students in their countries. These email projects involve a number of girls who use the opportunity to highlight the conditions of girls and women in Africa, thereby creating awareness and sensitizing other learners on these issues.

WLUML and RAWA – Afghanistan www.wluml.org www.rawa.fancymarketing.net	**Sookmyung Women's University – Republic of Korea** http://www.sookmyung.ac.kr
During the conflict in Afghanistan in 2001, email letters were sent on the state of women in Afghanistan. This sensitized readers to issues, which no other media were raising. Women Living Under Muslim Law (WLUML) used email actively for action alerts, and the Revolutionary Association of the Women in Afghanistan (RAWA) sent regular emails about the plight of women in Afghanistan.	Korea's first private college for women, established in 1906, has excelled in computer education for young women since 1987. The entire campus is a highly advanced technological facility, featuring wireless networks. Informatized pedagogy is used in all disciplines. Graduates of the major in Computer Science and holders of post-graduate degrees in information and communication are prized throughout the country.

Asian Pacific Women's Information Network Center (APWINC) - Republic of Korea http://www.women.or.kr
Based at Sookmyung University with support from UNESCO, Asian Pacific Women's Information Network Center promotes women's use of information and communication technologies in the Asia-Pacific region. Founded in 1996, it conducts ICT training for women from basic to expert levels (including Java programming and IT security). It also does extensive publishing, engages in regional and international networking, promotes e-business and runs an online learning center for Women. It offers ICT training for women professionals in other fields. Since 1999, with the support of UNESCAP, APWINC, the Asian Women's Resource Exchange (AWORC), and the Association for Progressive Communications – Women's Networking Support Programme (APCWNSP) have organized an annual training workshop on electronic networking for women's organizations in the Asia and Pacific region. Hosted at Sookmyung Women's University, the Asia-Pacific Women's Electronic Networking Training (WENT) was designed to promote the use of ICT among women and to enhance women's roles in social and policy advocacy in the region. Similar national-level WENT-modeled training workshops have been held in the Philippines and Malaysia in order to raise ICT awareness and its application. WENT focuses on basic website development and networking. WENT has also provided training on web-based information management, using ICT for advocacy and information management of information using databases. This year Local Area Networking is being introduced. To date, 116 women from 18 countries in Asia and the Pacific have participated in the WENT training.

Website on Gender and Economic Justice in European Union Accession and Integration - Central and Eastern Europe www.newww.org.pl
Women's networks (NEWW-Poland and KARAT) in Central and Eastern Europe (CEE) implement a three- year project funded by UNIFEM enabling women from EU candidate countries to use the EU accession process and the forthcoming integration with the EU to strengthen women's economic rights and gender equality. The Network of East –West Women– Poland is running a website and a bi-weekly electronic news update making widely available information about the EU integration process and possibilities of involvement in the debate regarding women's rights and gender equality in the process. It provides information on events, meetings, funding possibilities, campaigns and actions and on advocacy and lobbying. The project enabled women from CEE to send their contribution to the EU Forum of the Convention for the Future of Europe. The information provided on the website and in electronic news updates is often further disseminated by women NGOs. Amongst its 800 active participants are women's information centers, media and women's NGOs. The electronic newsletter has more than 350 subscribers.

Women's networks, lobbying and advocacy
Through a website, email lists and other communication technology, the Women's Caucus Gender Justice, http://www.iccwomen.org/, an international group with an international board, has been lobbying for the nomination of women judges to serve on the international criminal court. Thus far, four nominations out of eighteen are women.
Regional Representatives from Asia and the Pacific, in preparation for the Beijing +5 special session of the United Nations General Assembly (2000), set up a mailing list, which enabled the organization of a conference in Thailand in three months with the help of their website: www.aworc.org. The website made a number of United Nations documents widely available to women globally before the Beijing +5 event.
In Saskatoon, Saskatchewan, Canada, Hot Peach (www.hotpeachpages.org/highlights.html) provides shelters for abused women; they have developed a website in 26 languages.
The Coalition against Trafficking in Women- United States of America, (www.catwinternational.org/) CATW, a coalition against trafficking in women, uses email mailing lists and a website to raise awareness and publicity on pornography and encourages information sharing.
The International Information Centre and Archives for the Women's Movement (http://iiav.nl) supplies information and documentation on the situation of women globally. IIAV has a searchable database and online women's thesaurus.
WomenAction, http://www.womenaction.org, was a global initiative that consisted of an extensive information and communication network of women's organization which broadened and strengthened women's participation in the five-year review of the implementation of the Beijing Platform for Action. This initiative effectively and creatively used ICT tools in disseminating information about the review process to hundreds of women's organizations globally and supporting the advocacy and lobbying work around all the critical areas of concern in the Platform for Action. WomenAction led the redefinition of women's advocacy to reflect the new critical issues and advances in information and communication technologies.

v.   Priorities and strategies

In identifying priorities, attention has to be paid to context-specific, locally-appropriate and gender sensitive issues, and the close interconnection of issues such as race, class, caste, geographic location and age with gender, which produce complex structures of inequality and difference. Key factors that need to be considered in any gender-sensitive ICT strategy are:

- Time: the time when ICT are available to women and girls;
- Space: the places where ICT are available to women and girls;
- Technologies: using ICT appropriately for girls and women and to the task at hand;
- Security: conditions for the use of ICT that are secure for women and girls.

Important priority areas and strategies include:

1. Promote human rights, address pornography and censorship:
   - Observe human rights standards on all content production for and use of ICT
   - Protect women's human rights against sexual exploitation and gender-based violence, but do not restrict women's rights to information and communication
   - Mobilize ICT to serve as an effective tool in distributing information about and advocating against gender-based war crimes and human rights violations against women, including trafficking in women and girls

2. Support civil society, networking and virtual communities:
   - Promote participation in virtual communities through capacity building and access by women, girls and women's groups
   - Strengthen civil society by facilitating online participation of women in policy making, planning and implementation
   - Encourage civil society organizations to produce content that is gender sensitive
   - Build the capacity of women, girls and women's groups to use ICT to support networking activities for empowerment

3. Address health, education, HIV/AIDS and public goods:
   - Prioritize access to ICT for girls and women in schools and clinics
   - Build technical, managerial and gender-transformative skills and use ICT in enhancing professional skills of teachers, educational practitioners, doctors and health practitioners
   - Develop locally appropriate and context-specific education, health and HIV/AIDS content in local languages for dissemination via ICT
   - Use ICT to establish supportive channels of communication and networking of HIV/AIDS workers in reaching marginalized women and girls, particularly in rural communities
   - Develop mechanisms to preserve and enhance local production and community based broadcasting

4. Enhance cultural production, knowledge production:
   - Create conditions through policy, legislation and resource provision for the development of local and alternative content provision in particular women's organizations and community groups.

VII. Recommendations for action

In order to create an enabling environment and to support women's social and economic empowerment through ICT, actions are necessary by different actors, and at national, regional and international level. The following are urgently called for to promote gender equality.

Integrate gender perspectives in the development and implementation of national ICT policies and strategies

National governments, and government bodies and agencies responsible for ICT policies are urged to:

1. Adopt legislative, regulatory and administrative measures to promote gender equality in the ICT area, and in particular, adopt legislation in ICT-specific sectoral areas to address gender equality, and create monitoring frameworks and capacity to ensure implementation;
2. Develop gender-sensitive technical and regulatory instruments when addressing such ICT policy issues as universal access, regulatory frameworks, licensing, tariffing, spectrum allocation, infrastructure, ICT industry development and labour policies; attention is drawn to the detailed list of ICT policy issues and the gender aspects related to them contained in the appendix to the present recommendations;
3. Develop reporting mechanisms to monitor progress towards gender equality in the ICT area;
4. Collaborate with national machineries for the advancement of women to promote gender equality in ICT;
5. Implement the ITU "Gender-Aware Guidelines for Policy-making and Regulatory Agencies" which aim at ensuring that gender analysis becomes an integral part of licensing and regulatory activities (http://www.itu.int/itudoc/gs/promo/bdt/80186.pdf).

National machineries for the advancement of women are called upon to:

1. Strengthen their own capacity, through increased financial resources and technical expertise, to lead advocacy in gender equality and ICT;
2. Encourage and facilitate collaborative action among government bodies with responsibilities for the ICT area and for gender equality;

3. Increase the use of ICT in their own work for the advancement of women and gender equality;

4. Proactively work towards participating in national delegations to the World Summit on the Information Society and its preparatory activities as a means for increasing attention to the gender perspectives in all aspects to be covered by the Summit; and cooperate in national preparatory activities for the Summit.

International agencies should:

1. Take concrete steps to increase the participation of women in technical, regulatory and international coordination efforts, while recognizing that promotion of gender equality is not solely the responsibility of women.

Creating an enabling environment

National governments, government bodies and agencies responsible for ICT policies are called upon to:

1. Ensure representation of all stakeholders, and of women and men, at all levels of the ICT-related policy process;

2. Support, and provide training of, gender and ICT specialists and integrate gender analysis in ICT-related training efforts for policy makers;

3. Provide resources for civil society organizations, including women's organizations, to enhance grassroots participation in ICT policy processes;

4. Ensure that, when adopting measures to protect privacy and security in ICT, particular interests and concerns of women, such as issues relating to trafficking, are fully addressed;

5. Include content about women and gender issues in all official Government websites, in addition to those websites that specifically cover gender equality issues.

Governments, academia, research institutions and the scientific community are urged to:

1. Develop, promote and implement research programmes that permit ongoing and comprehensive analysis of the impact of ICT on gender equality and women's empowerment, particularly by development of appropriate indicators, conceptual frameworks and qualitative assessment methodologies;

2. Support and encourage research programmes to design, develop and adapt ICT infrastructure, tools and applications that are responsive to the needs of poor, especially non-literate women;

3. Take concrete steps to increase the number of girls and women students in the fields of science and technology, and of ICT, to increase the number of women in ICT careers at all levels, and especially in hardware design and production, and software engineering;

4. Take concrete steps to increase the number of women researchers, scientists, educators and administrators at all levels and especially at tertiary levels, in technical fields related to ICT.

Empowering women through the use of ICT

The private sector is encouraged to:
1. Promote and strengthen women's entrepreneurship in the ICT sector, including by supporting role models, and encouraging the creation of networks, mentoring programmes, and the development of business support programmes and linkages between national and regional diaspora;

2. Develop programmes to enable women entrepreneurs to keep up with rapid changes in technology and increase their economic opportunities;

3. Mobilize resources to support innovative projects in support of gender equality in ICT;

4. Provide preferential pricing for ICT-related activities of public and non-governmental educational and health institutions, non-profit organizations and make available adequate funding to support the production of content particularly relevant to women's interests and concerns;

5. Enhance women's participation and representation in business and professional organizations related to the ICT sector.

Governments and regulatory bodies are called upon to:
6. Step up efforts to compile statistics on ICT use disaggregated by sex, and develop gender-specific indicators on ICT use and needs;

7. Ensure that training and capacity building tools and initiatives, such as International Computer Driver's and InfoLit, integrate gender perspectives;

8. Develop e-governance mechanisms and participatory approaches in support of women's voices and to strengthen their capacity to monitor government action in ICT –related areas;

9. Monitor carefully the privatization and liberalization of education and health for its impact on equality of opportunities, access and quality of provision of

services for women, in particular poor women, through e-learning and e-health, and take appropriate remedial action to prevent discriminatory impact.

Promoting women's economic participation in the information society

Governments and other actors, including trade unions, business and professional associations, and international organizations such as the ILO and UNCTAD, should:

1. Develop ICT-based information systems with relevant content for women to increase their economic opportunities and entrepreneurship skills, including information about national economic and trade policies and programmes;
2. Use ICT to increase women's economic literacy and their economic empowerment and participation;
3. Ensure that women gain access to new employment opportunities in the ICT area, including by increasing women's access to ICT literacy and skills at all levels, and also ensure that women are not disproportionately disadvantaged by the working conditions and organizational climate common within the global ICT industry, such as "flexible" employment practices;
4. Develop ICT-based economic opportunities for women, especially rural women, such as telecentres and business incubators, and support the scaling up and sustainability of successful pilot projects;
5. Take steps to ensure that women entrepreneurs, including small and micro-entrepreneurs, can take advantage of e-commerce opportunities.

Promoting partnerships among all stakeholders in ICT, including development partners and investors

All stakeholders are called upon to:

1. Commit to work in partnership, ensure co-ordination, co-operation and collaboration in the development of a shared vision and common understanding of a world information society that contributes to human development based on agreed principles including reaffirmation of women's human rights and recognition of the right to communicate;
2. Take steps to ensure that gender aspects are considered and integrated in global ICT governance;
3. Recognize that providing increased access to ICT should be integrated into all programmes that aim at poverty alleviation and empowerment of women;

4. Introduce a mandatory requirement that all ICT and development projects include gender dimensions, as well as specific activities for women, in order to increase women's access to ICT facilities and applications and participation in the ICT area;

5. Identify measurable performance indicators to assess the impact of funded ICT projects on the lives of girls and women;

6. Promote the integration of gender perspectives in ICT through work undertaken by broad stakeholder alliances, including between women's organizations and social movements including democracy and human development coalitions;

7. Encourage governments and international agencies to create more gender-based ICT economic opportunities.

Mobilizing resources to promote gender equality in ICT

All stakeholders, including governments, bilateral and multilateral donors, foundations, and the private sector, are called upon to provide adequate resources to ensure that ICT can indeed become a tool for women's empowerment and gender equality. The following is especially important:

1. Increase, in existing funding mechanisms, the share of funds dedicated to ICT and gender equality components, and also identify new funding sources for such activities;

2. Encourage development partners and donor organizations, such as UNIFEM, UNDP, and the TechFunders Network of donor organizations, to increase their investment in projects on ICT for gender equality and women's empowerment;

3. Increase the proportion of EU funding spent on women and ICT in EU candidate countries;

4. Urge national governments to increase their funding for ICT and gender equality activities, and to provide funding for NGOs to strengthen opportunities for women's empowerment and participation through ICT;

5. Allocate, in national budgets, resources to support strategies to increase women's participation in the information economy;

6. Encourage governments to work with the ICT-related private sector to mobilize resources for gender-responsive ICT-based projects and programmes.

Ensuring inclusiveness and participation in promoting gender equality in the information society

Civil society is called upon to:
1. Participate in national and international ICT policy-making processes and raise gender equality issues as they pertain to ICT;
2. Act as intermediaries between Government and citizens in relation to gender equality in ICT;
3. Be actively involved in the process of developing content relevant to women;
4. Contribute to creating awareness of ICT as a tool for development;
5. Raise awareness and build constituencies among a wide cross-section of women on the role of ICT for the promotion of gender equality and the empowerment of women.

Recognizing the importance of the upcoming World Summit on the Information Society (Geneva, 2003, and Tunis, 2005), all actors, and in particular the decision-makers involved in planning the Summit, its outcomes and follow-up programmes are urged to:
1. Include gender perspectives in every facet of the Summit - from policy and planning to action, monitoring and evaluation, and also include targets for the participation of women;
2. Ensure active participation of gender equality advocates in the preparatory process of the WSIS and the Summit itself to ensure that global ICT policy integrates gender equality goals;
3. Include women as leaders and decision-makers in all planning processes for the Summit;
4. Facilitate and encourage participation of women as members of national delegations and representatives of civil society and business by setting targets for delegations to include at least 30 percent women including gender and ICT experts;
5. Implement an information dissemination campaign that includes a wide range of media such as radio, drama and print, and in a variety of languages, on ICT as a tool for the empowerment of women;
6. Commission a study on the interaction between gender equality and ICT, which should include development of conceptual tools, a baseline analysis of gender equality and ICT, design of appropriate indicators, and case studies on the impact of ICT on achieving gender equality, to inform the dialogue of the Summit.

The UN ICT Task Force is urged to:

1. Highlight the gender dimensions in the WSIS process, and enhance attention to gender perspectives in its own work.

Appendix I
Gender aspects of ICT policy issues

(prepared by Nancy Hafkin)[2]

ICT issue	Gender aspect
Network modernization	Does the proposed modernization provide infrastructure that is affordable to most women?
Network architecture	Equipment and service providers can offer cost-effective and appropriate solutions for the majority of women.
Network deployment	Choices of network infrastructure can be made that cater for the majority, focusing on universal access to ICT and not on expensive high-capacity specialized access. Affordable and forward-looking technology such as wireless alternatives that ensure low cost and affordable access can be used. When new technologies are implemented, ensure that women are included in training. The location of infrastructure should facilitate access for women.
Infrastructure	Is the infrastructure to be deployed throughout the country in the areas where women predominate? Are there provisions for high technology applications in areas where many women live outside of the capital and major cities? Women may be restricted from accessing ICT even when they are available in their communities as a result of social, economic, cultural or technological constraints. Gender awareness is essential in planning and implementing infrastructure.
Technology choice	The affordability of service is a key issue for women. Limiting technology choice can militate against new players and new technology in the market that might bring down costs-e.g. many developing countries ban Wi-Fi Internet[3] and VOIP (Voice Over Internet Protocol) telephony. While limitation on the choice of mobile standards (e.g. GSM, CDMA) can prevent fragmentation of markets in initial stages, continued insistence on standards can block the entry of mobile technologies that are cheap and effective for underserved areas. Assessments should be undertaken to determine appropriate technology choice- who will use it and for what purpose. User-friendly technology, particularly in the context of low literacy levels, should be supported and promoted.
Sector liberalization	While monopoly system operators understandably dispute this, opening the telecoms and ICT sector to competition can bring in needed investment and force down end user prices to make access more affordable, notably to women.

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[2] Hafkin, Nancy, "Gender aspects of ICT policy issues," prepared for the EGM, Seoul, Korea, Nov. 11-14, 2002.

[3] Wireless fidelity (Wi-Fi) is a network standard rapidly gaining in popularity in developed countries that creates wireless local areas networks in homes, offices and, increasingly, restaurants, hotels and airports at speeds faster than advanced mobile-phone networks. Wi-Fi LANs can be accessed with a relatively inexpensive network card.

ICT issue	Gender aspect
Tariff policy	This covers both import duties and taxes on computer equipment and pricing schemes for communications services. High customs duties on mobile telephones and computer equipment as well as high prices for telephone service are deterrents to women users. In preparation for competition in the telecoms sector, many countries are rebalancing international and domestic tariffs to eliminate existing subsidies, most frequently on local service. This rebalancing has meant higher rates for local calls in many places, which hit the poor, the majority of whom are women, the hardest. Although it is expected that competition will lower prices in the long run, in the interim many users cannot afford local service. Among the ways to compensate for rebalancing costs are basing tariffs on forward-looking costs and establishing regional (e.g. rural vs. urban) tariffs.
Regulation	Regulation is a vital area for advocates of gender equality in ICT. Regulators do not set policy but rather help in its implementation. Regulation produces a set of rules for market behavior- who can provide what service and under what conditions- and sets the framework for achieving desirable outcomes established by national policy, particularly in the two areas of the greatest interest for ICT and to the empowerment of women: universal access and affordable services. It is an area that gender proponents should focus on.
Independent regulators	An independent regulator can compel profit-driven private sector players to deliver on social and gender policy objectives such as universal access (see below). In return for granting licenses, regulators can compel service providers to provide service to underserved areas where women predominate. As regulators have the authority to set service priorities, gender equality advocates need to lobby to ensure that service to poor women in rural areas is a priority. Regulators can provide funds for research, development and testing of technology that will serve women. Those that secure licenses, particularly for cellular phones, are often required to fulfill community service obligations. Elements to ensure gender equality could be written into these obligations.
Regulatory frameworks	Regulatory frameworks can permit the resale of mobile phone services, which are often profitable businesses for women to establish. Regulatory frameworks can reduce licensing fees, spectrum prices and interconnection charges that can make ICT more accessible to women.
Licensing[4]	If fees for telecommunications, ISP and mobile service licenses are high, they will be passed on to users, limiting the affordability to women and the poor. High fees increase the cost of telephonic and ICT services, discouraging women-owned communications businesses including telecenters, phone-fax-Internet shops and mobile telephony. A certain number of telecommunications licenses should be allocated to women-owned businesses or businesses with women in management positions. A gender equality licensing policy could waive license fees for communications businesses run by women entrepreneurs or those that provide services to

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[4] This section owes a heavy debt to Sonia Jorge, *Gender Perspectives in Telecommunications Policy: A curriculum proposal*. ITU: Geneva, 2000.

ICT issue	Gender aspect
	underserved areas, particularly where women are concentrated. Fees could be reduced for operators with gender equality and pro-handicapped employment policies. Licenses can obligate providers to provide discounted service to certain customers such as poor women in rural areas. Licensing procedures should be transparent so that women applicants can have ready access to the information. License awards can contain certain conditions that promote gender analysis and mainstreaming for the particular company.
Universal access	Universal access concerns the establishment of telecommunications development funds and other programs, funded by carrier fees and other revenues collected by regulators, to facilitate the expansion of access to the underserved. It is the avenue for gender equality *par excellence* that has real possibilities of positively affecting the lives of the mass of women. As telecoms development funds reflect extremely important policy and set the rules for implementation of ICT projects in underserved areas, they deserve great attention from gender advocates. Focus should be on developing gender-aware universal access policies stressing public access points as an alternative to more capital-intensive choices (one line/home) and ensuring that locations of public access points are gender-sensitive (e.g. not in bars or auto shops).
Universal service obligations	Universal service is a specific obligation that regulators require of operators in return for licenses to contribute to universal service goals. Under universal service obligations, regulators can mandate the provision of telecenters in underserved areas. Telecenter plans need to take into account the different needs of men and women in the concerned communities. Gender advocates could lobby for incorporating gender-based issues in universal service rules. In most places it hasn't happened yet because women's groups haven't pushed for it. Demands could include that service to underserved areas be delivered reflecting male-female distribution in the population, that priority be given to disadvantaged women such as single mothers, widows, disabled women, etc. Service providers could be mandated to offer telephone subsidies or price packages targeted at rural women, the disabled and aged.
Radio frequency spectrum	This issue also involves fees and licenses. Lower fees will encourage applicants to provide services to new markets, including women. Licenses should be equitably and transparently distributed, so that women-owned businesses and businesses that serve women have a chance to secure licenses. In several African countries where government maintains a monopoly on radio frequencies, public/private access to radio frequency is still an issue. In a number of places, women-run community radio stations have obtained licenses.
Research and development and innovation	Are there incentives directed at encouraging women in ICT research and innovation? Are tools and software being developed using local languages? Is there R & D on developing technologies for the illiterate and neo-literate? Research efforts and programs that promote women innovators can be subsidized. Scholarships and grant programs for women in science and technology can be created. Technology programs should promote and accept women's participation. Create and support technical programs at universities by providing grants or scholarships for women students and/or researchers.
Systems for learning and training	Do women have equal access to technical training? Programs to train women in ICT technical and management programs,

ICT issue	Gender aspect
	followed by internships, can be supported.
Software and applications	Do women have a say in what applications are being promoted? Are they usable or accessible to many women? Does the policy support open source software and Linux operating systems that can make software available to communities with limited budgets?
Building technological capacity	Are opportunities extended to women as well as men? Are there mechanisms for women to enter these fields and training programs? to develop role models for young girls? to stem the brain drain? Are training opportunities available not only for technology professionals but for non-professionals to use ICT?
ICT industry development and labor policies	Encouragement and incentives must be given to encourage women to enter all segments of the ICT labor force, not just the menial electronic assembly jobs they have dominated in the past. Enabling policy can encourage the establishment of teleworking which has provided jobs for many women.
ICT business development and e-commerce	Enabling legislation for e-commerce should encourage women entrepreneurs. SME ICT and communications businesses, with possibilities for ownership by women and women's groups, should be encouraged. Telecenters can provide economic opportunities for women; they should be promoted for business development, with consideration for women owners. A number of telecommunications licenses should be allocated to women-owned businesses. Carriers could be obligated to do a certain percentage of business with women-owned businesses. Training programs could be promoted to establish ICT-related business opportunities (e.g., e-commerce, telecenters, wireless company ownership)
E-government	Women could benefit from many e-government services especially land and voter registration and license applications. They would especially profit from online availability of services that would otherwise require travel to the capital city.

Appendix II

Women informatization indicators in the Republic of Korea[1]

(Prepared by Soon-Ae Yang[2])

Extracted summary from **"*A survey on the advancement of women's informatization and the development of women informatization indicator[3]s*"**

1. Information society indicators

The EU and other countries have developed information society indicators to analyze the impacts of ICT on society. Statistical information is gathered and published periodically. Korean women's informatization indicators were compared with three indicators. The table on the next page shows the main items of these four indicators.

- Women's informatization indicators in Korea
- These indicators were developed to measure the advancement of informatization of women in Korea. The results show the difference of the level between men and women as briefly described below.
- Information Society Index of IDC/World Times
- This covers the broad ranges of items to measure the advancement of information society in 55 countries. This also covers social infrastructure as well as computer, Internet and information infrastructure.
- Telecommunication Indicators of ITU
- These indicators show the level of advancement in the area of telecommunications in 20 categories such as infrastructures, changes of users, tariff, tax, etc.
- Information society indicators of EU

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[1] This was prepared for the expert group meeting on "ICT and their impact on and use as an instrument for the advancement and empowerment of woman", UNDAW, 11-14 November 2002.

[2] Department of Multimedia Engineering, Youngsan University, ysa@ysu.ac.kr

[3] This research was commissioned by the Ministry of Gender Equality in Korea in 2001, and performed by Sook-Kyung Chung in KWDI, Myung-Ju Chung in Korea National Computerization Agency, Ji-Yeol Yoo in Korea Internet Information Center, and myself

The purpose of these indicators is to analyze the impacts of advancement of information society. The survey is conducted and published by ISPO (Information Society Project Office) of the European Commission.

< Comparison of Informatization Indicators[4]>

	Women's Informatization indicators (Korea)	ISI (IDC/World Times)	Telecommunication Indicators (ITU)	ISI (EU)
Awareness	Acknowledgment of IS Responsiveness to IS Acceptiveness of IS Information Ethics			
Access	Possession of computers Possession of Telecomm. Equipments ISP subscribers	PCs per Capita PCs per household Office PCs Student PCs Teacher PCs s/w & h/w expenses Telephone Failure rate Radio subscribers TV subscribers FAX subscribers CATV subscribers Telephone charges Mobile telephone Subscribers	Telephone main lines Waiting time per telephone line Percentage of telephone service faults Telephone main lines for residential use Public pay phones Telephone call charges Mobile telephone subscribers Mobile communication charges ISDN subscribers ISDN comm.. charges International telephone traffic CATV subscribers New telephone main lines New mobile comm. subscribers	Telephone main lines ISDN subscribers Mobile telephone subscribers Rate of telephone main lines Rate of mobile telephone subscribers Rate of ISDN subscribers Rate of telephones Rate of public telephones National call charges PCs per 100 residents Rate of PCs in home/office Rate of TV subscribers Rate of CATV subscribers Rate of satellite subscribers
Use	Usage of computers Usage of Internet Usage of software Usage of Telecomm Equipment	Internet users in office Internet users in home PC users among teachers PC users among students Expense on Internet EC	Internet hosts Internet users PC users TV subscribers	Internet users Internet usage in industry Internet business Internet portal sites Size of EC Rate of EC users Internet hosts Internet domains
Capacity	Information searching Judgment of Information gathered Recognition of correct information Knowledge of ICT			
Effects	Change on individuals by using computers			
Misc.		Freedom of citizen Newspaper subscribers Freedom of press No. of students	Population GDP Revenues/Investment In telecommunications	Telecomm. markets Telecomm. equipment markets

[4] Not all items are listed here. For further information, please refer to **www.idc.com**, **www.itu.int**, **www.eu-esis.org**

2. Women's Informatization Indicators in Korea

About 1,300 women and 1,300 men were interviewed face-to-face in November, 2001. Then measures were calculated by Gini ration method. Some indicators are described in the tables below.

< Digital Divide between Women and Men >

	awareness	access	use	capacity	effects
Men	100.0	100.0	100.0	100.0	100.0
Women	95.8	77.1	71.8	97.3	95.9

< Comparison by Ages >

	awareness	access	use	capacity	effects
20's	100.0	100.0	100.0	100.0	100.0
30's	96.9	85.6	72.2	96.2	96.2
40's	91.8	76.6	51.8	91.2	86.5
Above 50's	82.4	49.2	19.2	85.0	74.5

< Comparison by Income >

	awareness	access	use	capacity	effects
Above 3.3	100.0	100.0	100.0	100.0	100.0
2.5 to 3.3	96.6	79.3	76.5	96.0	104.5
1.6 to 2.5	93.4	63.5	56.0	93.6	98.8
0.8 to 1.6	91.5	58.8	60.8	88.7	91.7
Below 0.8	86.8	42.3	45.7	87.0	79.9

* income unit : US$

< Comparison by Region >

	awareness	access	use	capacity	effects
Large urban area	100.0	100.0	100.0	100.0	100.0
Small-medium urban area	99.2	102.5	97.6	100.5	106.4
Rural area	97.6	73.0	69.3	95.6	95.1

ANNEX I

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ANNEX II

LIST OF DOCUMENTS

A. PAPERS BY EXPERTS

EGM/ ICT /2002/EP.1   *Gender issues in ICT policy in developing countries: an overview*
Prepared by Nancy Hafkin (USA)

EGM/ ICT /2002/EP.2   *National ICT policies and gender equality regional perspective: Asia*
Prepared by Chat Ramilo (Philippines)

EGM/ ICT /2002/EP.3   *National ICT policies and gender equality regional perspective: Latin America*
Gloria Bonder (Argentina)

EGM/ ICT /2002/EP.4   *ICT as an instrument for participation: the regional perspective from Africa, examples of Internet use at the grassroots level*
Prepared by Fatimata Seye Sylla (Senegal)

EGM/ ICT /2002/EP.5   *Using new technologies for enhancing women's participation in EU accession and integration discussions: a case study*
Prepared by Malgorzata Tarasiewicz (Poland)

EGM/ ICT /2002/EP.6   *ICT as a tool for enhancing women's education opportunities; new educational and professional opportunities for women in new technologies*
Prepared by Gillian Kirkup (UK)

EGM/ ICT /2002/EP.7   *It's hot for girls! ICT as an instrument in advancing girls' and women's capabilities in school education in Africa*
Prepared by Shafika Isaacs (South Africa)

EGM/ ICT /2002/EP.8   *The economics of ICT: challenges and practical strategies of ICT use for women's economic empowerment*
Prepared by Sonia Nunes Jorge (Portugal)

EGM/ ICT /2002/EP.9	*ICTs as a tool for economic empowerment of women: experiences from the use of a CD ROM by rural women in Uganda* Prepared by Rita Mijumbi (Uganda)
EGM/ ICT /2002/EP**.**10	*ICT and education for women: case study of the Republic of Korea* Prepared by Young-Joo Paik (Republic of Korea)

B. **PAPERS BY OBSERVERS**

EGM/ ICT /2002/OP.1	*Women, communication rights and the Internet* Prepared by Jo Sutton, Scarlet Pollock, and Lynn Hauka, Womenspace (Canada)
EGM/ ICT /2002/OP.2	*Considerations for gender advocacy vis-a-vis ICT policy and strategy* Prepared by Louise Chamberlain, World Bank
EGM/ ICT /2002/OP.3	*INSTRAW virtual seminar series on gender and ICT. Summary of discussions and recommendations.* Prepared by Sophia Huyer and Tatjana Sikoska, INSTRAW
EGM/ ICT /2002/OP.4	*Harnessing ICTs for advancement of rural women: FAO perspectives and strategic actions* Prepared by Revathi Balakrishnan, FAO
EGM/ ICT /2002/OP.5	*Gender perspective ICT policy & project regional gender and ICT Center* Prepared by Kio Chung Kim, Asian Pacific Women's Information Network Center (APWINC)

C. BACKGROUND PAPER

EGM/ ICT /2002/BP.1	*From Conceptual Ambiguity to Transformation Incorporating Gender Equality and Women's Empowerment in the ICTs arena* Prepared by Gillian Marcelle (Trinidad and Tobago)
EGM/ ICT /2002/BP.2	*Report from the online conference conducted by the Division for the Advancement of Women* Prepared by Gillian Marcelle (Trinidad and Tobago)

ANNEX III

PROGRAMME OF WORK

Sunday, 10 November 2002

7:00 p.m.   Briefing of experts

Monday, 11 November 2002

9:00 – 9:30 a.m.   Registration of participants (observers and national observers)

9.30 – 10:45 a.m.   Opening ceremony (tentative)

- Message from Ms. Carolyn Hannan, Director, Division for the Advancement of Women, DESA, United Nations
- Message from H.E. Ms. Myungsook Han, Minister for Gender Equality, Ministry of Gender Equality, Republic of Korea
- Opening statement by Ms. Anne-Isabelle Degryse-Blateau, United Nations Resident Coordinator in the Republic of Korea
- Opening statement by Dr. Ha-Jin Jang, President of the KWDI
- Opening statement by Ms. Ingunn Yssen, Senior Adviser on Gender Issues, ITU

10:45 – 11:00 a.m.   Break

11:00 – 1:00 p.m.   Election of officers and adoption of the programme of work

Introduction to the meeting followed by presentation by DAW

Presentation of background paper by Gillian Marcelle, consultant, DAW

1:00 – 2:30 p.m.   Lunch

2:30 – 3:45 p.m.   Presentation by experts

Panel I: "*National ICT policies and gender equality*"

"*Gender issues in ICT policy in developing countries: an overview*"

Nancy Hafkin (USA)

"*National ICT policies and Gender Equality. Regional perspective: Asia*"

Chat Ramilo (Philippines)

"*From access to appropriation: Women and ICT policies in Latin America and the Caribbean*"

Gloria Bonder (Argentina)

It is proposed that presentations of experts' papers would not exceed 15 minutes each, in order to allow for a short question-and-answer session.

3:45 – 4:00 p.m.	Break
4:00 – 5:00 p.m.	Presentations by experts

Panel II: *"ICT as an instrument for participation"*

"The regional perspective from Africa, examples of Internet use at the grassroots level"

Fatimata Seye Sylla (Senegal)

"Using new technologies for enhancing women's participation in the EU accession and integration, a case study"

Malgorzata Tarasiewicz (Poland)

5:00 – 6:00 p.m.	Presentations by observers followed by discussion

It is proposed that observers who have prepared papers be given an opportunity to make short oral presentations, not to exceed five minutes each.

Tuesday, 12 November 2002

9:30 – 10:45 a.m.	Presentations by experts

Panel III: *"ICT as an instrument for enhancing women's capabilities"*

"ICT as a tool for enhancing women's education opportunities; and new educational and professional opportunities for women in new technologies"

Gillian Kirkup (UK)

"It's hot for girls! ICT as an instrument in advancing girls' and women's capabilities in school in Africa"

Shafika Isaacs (South Africa)

"ICT education for women: case study of the Republic of Korea"

Young-Joo Paik (Republic of Korea)

10:45 – 11:00 a.m.	Break
11:00 – 12:00 p.m.	Presentations by experts

Panel IV: *"ICT as an instrument for women's economic empowerment"*

"The Economics of ICT: challenges and practical strategies of ICT use for women's economic empowerment"

Sonia Nunes Jorge (Portugal)

"ICT as a tool for economic empowerment of women: experiences from the use of a CD ROM by rural women in Uganda"

Rita Mijumbi (Uganda)

12:00– 1:00 p.m.	Presentation by Sergei Kambalov, UN ICT Task Force Secretariat followed by presentations by observers and discussion
1:00 – 2:30 p.m.	Lunch
2:30 – 3:45 p.m.	Discussion
	Establishment of working groups
3:45 – 4:00 p.m.	Break
4:00 – 5:30 p.m.	Parallel working groups

Wednesday. 13 November 2002

9:30 – 1:00 p.m.	Parallel working groups
1:00 – 2:30 p.m.	Lunch
2:30 – 3:45 p.m.	Parallel working groups
3:45 – 4:00 p.m.	Break
4:00 – 5:30 p.m.	Working groups to complete draft recommendations for submission to the drafting committee.
5:30 – 6:00 p.m.	Plenary: feedback from the working groups

Thursday 14 November 2002

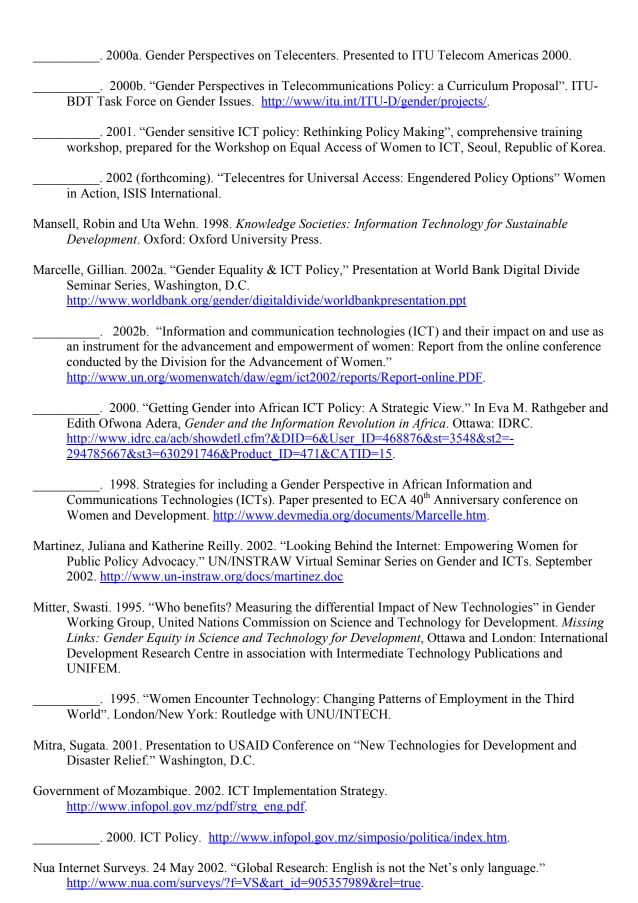| 9:30 – 11:00 a.m.	Drafting committee (finalization of the compilation of recommendations)
11:00 – 11:15 a.m.	Break
11:15 – 1:00 p.m.	Plenary: presentation and discussion of draft report and of recommendations
1:00 – 2:30 p.m.	Lunch
2:30 – 3:45 p.m.	Adoption of final report and recommendations
3:45 – 4:00 p.m.	Break
4:00 – 5:00 p.m.	Closing session

ANNEX IV

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