Putting Beijing Online

Women Working in ICT

Women in Sync

TOOLKIT FOR ELECTRONIC NETWORKING

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PUTTING BEIJING ONLINE
Women Working in Information
and Communication Technologies:

Experiences from the APC Women's
Networking Support Programme

by Peregrine Wood

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"The very fact that we did it. In a mainly male dominated domain, we demonstrated through visible action, that women could negotiate, establish, maintain and support a highly sophisticated technological operation. At least two conferences since have emulated the style of our set-up — I think a great sign of achievement and empowerment is to have the ability to inspire others to follow your work."

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By Peregrine Wood

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Foreword

Last May 2000, the Association for Progressive Communications (APC) celebrated 10 years of building a global Internet community for environment, human rights, development and peace. A significant part of this celebration is the Women's Networking Support Programme (WNSP), one of APC's most successful and dynamic programme. APCWNSP began in the early 1990's and continues to be one of the strongest global Internet-based networks in the world.

As we approach our own 10th anniversary, we are publishing *Women in Sync*, a collection of stories about the experiences of women and their organisations who have become part of the APCWNSP network. *Women in Sync* is designed to be a toolkit for women's electronic networking.

This three part toolkit is a reflection of lessons we have learned as a network and an acknowledgement of the challenges we face in a world increasingly transformed by information and communication technologies. We offer our experience in the hope that it will provide women inspiration and an opportunity for learning to create and maintain strong Internet-based networks.

Women in Sync is a major component of APCWNSP's latest project called Lessons Learned: Building Strong Internet-based Women's Networks. This project is a global research, documentation and training effort to create resources and tools that will enable women's organisations as well as ICT project planners to implement successful women's networking initiatives. This publication is a contribution to the development and strengthening of practical, relevant and sustainable women's networking initiatives at the global, regional and national levels.

All the articles in *Women in Sync* were written from the perspective of women who pioneered in e-mail communications in the days before the Internet boom. The articles also tell the stories of women who persevered in utilising computer networking that built connections among women across continents for women's empowerment.

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The first kit, *Putting Beijing Online*, is a summary of findings of the research, Women Working in Information and Communication Technologies (WWICT): Experiences from the APC Women's Networking Support Programme. This research study was developed to gather feedback from the team of 40 women who had worked on the APC communications project in Beijing during the Fourth World Conference on Women in 1995. The WWICT study builds on findings from a previous WNSP study done in 1996 on women's global networking. It explores in more depth women's relationship to and experience of working with computer communication technologies. The two studies highlight the concrete experiences and achievements of diverse women working in information and communication technologies and offer a useful corrective to conventional views of women and technology.

The second kit, *Networking for Change*, is a collection of five articles that chronicles the history and examines the growth of the APCWNSP from a small group of women to a global network that served as an incubator of networking initiatives worldwide. The articles in this series focus on lessons learned, emerging issues and challenges in gender and ICT policy and advocacy, integration of new and old technologies to strengthen women's networking, directions in ICT training for women, and the WomenAction global information and communications initiative for the five-year review of the implementation of the Beijing Platform for Action.

The third kit, *Acting Locally, Connecting Globally*, are stories of women's networking from Africa, Asia, Latin America and Europe. From APC Africa Women comes the stories of the Francophone African Website Famafrique, the national information network Women'sNet of South Africa and an example of electronic commerce for the African women entrepreneurs. An example of regional information and resource sharing is presented through the article about the Asian Women's Resource Exchange, a network of 11 organisations from nine countries in Asia. The APCWNSP in Latin America is featured in another article that traces its history as a network that first provided user support and technical training for women's organisations, later building a reputation as a

resource in the strategic use of ICT from a gender perspective. Our last story is about the Network of East-West Women which connected women's centres in East and Central Europe and the former Soviet Union in the fall of 1994 and has grown into a well-known network providing linkages and information resources for women in that region.

In the last five years, many more women's electronic networks have been formed to put ICT to work for women's advocacies. By publishing *Women in Sync*, APCWNSP hopes to encourage the telling of many other women's stories.

We would like to thank the International Development Research Center (IDRC) for their support for this publication. IDRC has been a partner of APCWNSP through the years.

We hope that the stories in these pages resonate in your own context, and that the lessons we have distilled from our experience help all of us in carving the next 10 years of women's electronic networking.

Chat Garcia Ramilo
Lessons Learned Project Manager
APCWNSP
November 2000

Preface

One of the most striking aspects of the 1995 United Nations World Conference on Women (UNWCW) in Beijing was the application of information and communication technologies (ICTs) by women across the globe as a means of furthering their missions and agendas. Putting Beijing online was the pioneering work of an all-women team of technicians and communication activists associated with the Association for Progressive Communications Women's Networking Support Programme (APCWNSP). As primary provider of telecommunications for Non-Governmental Organizations (NGOs) and UN delegates during the preparatory process and on-site in Huairou and Beijing, the APC team worked closely with many women and groups to ensure that information and communication systems were available before, during and after the Conference. Not only did their efforts help produce the strongest and most comprehensive international agreement on women's equality. APCWNSP's communications initiative for the UNWCW also established computer networking as a powerful mechanism for women and women's groups across the globe.

For myself — eight months pregnant and unable to attend in Beijing — this progressive use of new technologies allowed me and many others across the globe to participate in an effective and timely fashion in the work of the Conference. I will never forget one image of myself (suffering from a bulging belly and swollen ankles) assisting some members of the Raging Grannies (a group of grandmother activists lobbying for change in Canada) to send an e-mail to their colleagues attending the Conference in China. What is especially vivid for me about this recollection is that we were set up in a 'women's tent

city,' right outside the provincial parliament buildings in Toronto. Using a mobile phone and computer to get connected, we were able to explore the Web site postings provided by our sisters in Beijing and send e-mails of solidarity and support. Despite many obstacles, the APCWNSP team who wired the Beijing process was instrumental in transforming women's activism and networking across the globe. Women's global networking will never be the same!

Post-Beijing there was a great feeling of delight for me to work with an international team of researchers associated with the APC Women's Programme to examine more closely such a significant achievement. The Women Working in Information and Communication Technology (WWICT) study that is presented in this publication shares the experiences of the APCWNSP team who worked in Beijing as related and analysed back in 1997–98.

Much has changed in the use of ICTs in the struggle for women's equality and empowerment since this study was first undertaken. Many more ICT projects and programmes across the globe have been started by women's groups: from training other women to effectively utilize computer networking and developing new tools for making the technology more gender-sensitive to working for community access to information and communication technology to lobbying for women's participation to the shaping of such a technology. Numerous women's networks and websites have emerged with a strong presence on the Net. Activists and scholars are collecting and commenting on women's ICT experiences in the construction of women's knowledge in this field. In many of these post-Beijing initiatives, the APCWNSP team of technicians and communication activists remain actively involved.

Why then share this report now — five years after Beijing?

The struggles and gains of the women who put Beijing online should be made accessible to a broader audience. Publishing this study can only contribute to raising people's awareness about the many battles women in general have waged and are waging to make themselves visible.

This study can also be considered an important resource to enable others along with us in the APCWNSP to learn from the experience of the pioneering women in Beijing.

Finally, this report is a celebration of the achievements of the women who paved the way for a new way of networking and empowering women.

To the future of women's computer networking in solidarity and in sisterhood,

Peregrine Wood
Principle Researcher and Writer – WWICT Study
APC Women's Networking Support Programme

Part I:
The Context for this Study

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Introduction

Analytical Framework

Work Site Scenarios

INTRODUCTION

The use of computer communications has become increasingly popular in the last decade, resulting in a proliferation of research and action around global communications and networking. There remains, however, little focus on women as 'users' or 'workers' of the new technologies in the context of social change.[1]

Since its beginnings, the APC Women's Networking Support Programme[2] (henceforth APCWNSP or APC Women's Programme) has been committed to building a network of skilled and highly experienced women working in the field of information and communication technology (henceforth, ICT). The APC Women's Programme plays a critical role in facilitating access and use of computer communications for women and their organisations. The APCWNSP is also demonstrating the commitment and talents of women worldwide to enhancing women's global networking. It firmly believes that such a networking initiative facilitates the greater inclusion, recognition and fuller participation of women in all aspects of society.

In 1995, the APCWNSP implemented a women-led initiative[3] to provide Internet access, electronic communications and information services and support to over 30,000 women attending the United Nations Fourth World Conference on Women (UNWCW) and Non-Governmental Organisation (NGO) Forum in Beijing in China. Over forty women, representing 25 countries and speaking 18 languages worked together to set up and manage a computer networking facility, and to provide training and user support to the women who used this facility. The team also facilitated the information flow and advocacy that were generated by women's networks built around the Fourth World Conference on Women. The team "modeled to other women that [the new] technology was appropriate for and could be maintained by women.[4] "

The "Women Working in Information and Communication Technology" (WWICT) study was developed to gather feedback from the women who had worked on the APC communications project in Beijing. It follows from a previous study done by the APC Women's Programme in 1996 on women's global networking.[5] This earlier study surveyed over 700 individual women and women's groups by e-mail to identify their needs and opportunities as 'users' of electronic communication technology. The WWICT study builds on those findings by exploring in more depth women's relationship to and experience of working with computer communication technologies. The two studies highlight the concrete experiences and achievements of diverse women working in information and communication technologies. Together, these two studies offer a useful corrective to conventional views of women and technology.

The Women Working in Information and Communications Technology (WWICT) study attempts to answer the following questions:

◗ What impact did the APC women's communication project and activities have on the various stakeholders?

◗ What are women's needs, opportunities and pitfalls relative to attaining skills in computer communication technologies and women's global networking?

◗ Now that Beijing is past, what should be the composition, nature and direction of the APC Women's Programme to best serve the ongoing needs of women in ICTs?

◗ How can the APC Women's Programme encourage solidarity among and between women working in the field of ICTs, build stronger alliances and inform women's global networking?

Twenty-four responses from 15 countries were received representing women (and four men) working in all aspects of ICT. The general findings reveal that the Beijing communication project was a useful and empowering experience for the women who participated in it. The experience resulted in new skills and talents in information man-

agement and policy advocacy, as well as increased job opportunities in ICT. Working within a women-led, women-defined programme — where mentoring and women-to-women training were key elements — was critical to the project's success. Other important observations indicate that women face many challenges in adjusting to the demands of new technologies, and that increased job opportunities affect both the quality and quantity of women's work bringing new tensions to their personal and professional lives. An important outcome of the project is the emergence of a highly skilled and experienced team of women who can support computer-networking initiatives around the world.

The report that follows reflects the wishes of participants of the APC Women's Programme to share information, to provide guidance, and to support women's access to, use of, and work in ICT. Hopefully, the study will help women associated with the programme to feel less isolated in their work. By linking their issues and struggles, women can gain new insights and strengths to better deal with the forces (both external and internal) that women working in ICT are up against. Through the study, the APC Women's Programme also hopes to help generate new strategies and tactics that can enhance women's global communications and networking support. The APC Women's Programme remains committed to enlarging this vital network of support to connect women around the world as 'users' and 'workers' of computer communication technologies.

The report is presented in four parts. Part I introduces the APC Women's Programme and the goals and objectives of the study. An 'evolving' analytical framework for examining gender and APC relationships is also presented in Part I, as well as work site scenarios which document the range of activities undertaken and the many challenges faced by women who worked in the APCWNSP's communications project in Beijing.

The research methodology is discussed extensively in Part II.

In Part III, the report tries to articulate women's needs, observations and recommendations relative to attaining skills and working in computer communication technologies and global networking. Important observations about the role of the APC Women's Programme are also discussed in this section.

Finally, the conclusions and recommendations found in Part IV offer future methodologies and structures of support for women working in electronic communications, networking and technology development.

GENDER AND INFORMATION AND COMMUNICATION TECHNOLOGY: TOWARDS AN ANALYTICAL FRAMEWORK

In *Feminism Confronts Technology*, Judy Wajcman concludes, "The time is ripe for reworking the relationship between technology and gender. The old masculinist ideology has been made increasingly untenable by the dramatic changes in technology, by the challenge of feminism... Technologies reveal the societies that invent and use them, their notions of social status and distributive justice. In so far as technology currently reflects a man's world, the struggle to transform it demands a transformation of gender relations" (Wajcman, p. 166).

The time is indeed ripe. The past two decades have demonstrated the growing strength of the global women's movement in advocating issues of women's equality and empowerment. Awareness and consciousness continue to steadily grow around women's marginalisation and invisibility in all aspects of technology. There exists an array of literature that speaks on this topic.

Beginning in the early 1980s, research looking into the effects of new technologies on women's jobs prompted debates about the gender gap in technology. Most of these studies are inaccessible, yet much of

these are critically important to women's efforts to inform decision-making and to guide actions.

This section presents a range of perspectives on gender and information and communication technology (ICT) drawn from a review of the literature. The aim is to present some of the major debates and critiques of ICT to highlight some important issues of concern for women. It also forwards an analytical framework for viewing women's participation in the practice and critique of computer networking. The framework builds on an initial one developed for a previous research study undertaken by the APCWNSP to look at the experience of women as 'end-users' of ICT. It extends the earlier framework by incorporating international perspectives into the discussion, and highlighting some issues and observations specific to women as 'workers' in ICT.

Defining the Concepts

Before embarking on a discussion of gender and ICT, it is important to clarify what is meant by the terms. According to Wajcman, 'technology' has at least three different layers of meaning (p. 14). First, 'technology' refers to what people know including the know-how to use technology, repair it, design it and make it. Second, 'technology' refers to the human activities and practices of technology such as steel making and computer programming. And finally, 'technology' refers to the hardware or the sets of physical objects such as computers or cars.

Swasti Mitter differentiates 'information technology' as a group of technologies that process rather than merely store or transmit information (p. 3). At the core of information technology is computers and software.

According to Pilar Riano, the term 'communications' refers to "a social system of shared symbols and meanings (which) bind people together into a group, a community, or a culture" (p. 280).

The term 'gender,' on the other hand, refers to the different roles

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men and women play in a society or a community. (Parker, p. 18). These roles are determined by cultural, economic and social factors and differ within and between cultures and countries. Sheila Rowbotham observes that the term 'gender' has no single meaning, but is affected by a whole complex of social relationships (p. 341). Gender roles are different from sex differences in that sex differences are biological, and for the most part, unchangeable. Gender roles are dynamic and change over time (UNDP, p. 3).

These definitions of 'technology,' 'information,' 'communications' and 'gender' are worth bearing in mind in the discussion that follows.

Some Feminist Perspectives on Women and ICT

Hidden from History'

One of the first things pointed out in the gender and technology literature is that women's contributions to the field have been left out of history. The task of early feminist scholars, therefore, has been to "uncover and recover the women hidden from history" who have contributed to technological developments (Wajcman, p. 15). In identifying women's history, writers point to evidence that during the industrial revolution women invented and contributed to the invention of such crucial machines as the cotton gin, the sewing machine, the small electric motor, and the loom. Similarly, feminist work on the history of computing and information technology draws attention to the fact that women have always been involved in computing. To fully comprehend women's contributions to technological development, these writers argue for a movement away from the traditional conception of technology (which sees technology in terms of male activities) to a greater emphasis on women's activities.

Women in Technology

The 'women in technology' literature focuses on women's exclusion from technology, with change understood as coming about via

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increased access and policies that promote equal opportunities. Early studies of women and the engineering, computing and information technology sectors draw attention to women's under-representation in technical occupations and their over-representation in operator and clerical jobs. Although, more recent studies show women making some inroads into technical and higher level occupations, there is an increasing feminisation of some of the lower level jobs. Educational data, too, show a distinct gender pattern with women representing a small and declining proportion of entrants to university computer studies courses. Studies on the conditions of work for women in technology draw attention to salary differences which show women earning less than men (Henwood, pp. 32-37). The solution to these problems from the 'women in technology' perspective is to increase the numbers and proportion of women in computing and information technology.

A Technology Based on Women's Values

In the 1980s, feminists turned their attention to the gendered character of technology itself. "Rather than asking how women could be more equitably treated within and by a neutral technology, many feminists now argue that Western technology itself embodies patriarchal values" (Wajcman, p. 17). Technology, like science, is seen as deeply implicated in the masculine project of the domination and control of women and nature. The argument from this perspective is for a technology based on women's values. Eco-feminists' critiques of technology have been particularly visible from this perspective concentrating on military technology and the ecological effects of modern technologies, which they view as products of a patriarchal culture (Rothchild, 1983). Feminists from this perspective promote women's greater humanism, pacifism, nurturance and spiritual development and seek a new vision of technology that would incorporate these values.

Technology and the Division of Labour

Building on the Marxist labour process debates of the 1970s (which saw the social relations of technology in class terms), technology from this perspective is understood as neutral but misused under capital-

ism to de-skill workers and increase managerial control over the labour process. Feminist contributions to these debates see women's exclusion from technology as a consequence of the gender division of labour and the male domination of skilled trades that developed under capitalism. As Wajcman points out, women's alienation from technology is accounted for in terms of the historical and cultural construction of technology as masculine (p. 20). Thus, technology from its origins reflects male power as well as capitalist domination.

Gender and Technology Socially-Defined

Rejecting the notion that technology is neutral, this perspective understands technology and gender as socially defined. Historically, technology has been defined as exclusively male activities to the extent that many tasks women have traditionally performed (such as knitting) are not defined as technical despite involving a high degree of manual dexterity and computation (Cockburn, as quoted in Henwood, p. 40). Similarly, Game and Pringle point to distinctions such as 'heavy/light,' 'dirty/clean' and 'technical/non-technical' which (they argue) are constructed to preserve a sexual division of labour (1984, p. 17). Thus, rather than arguing for women's inclusion in work currently defined as skilled and technical, this perspective suggests feminists should be arguing for a total re-evaluation of work so that many of women's traditional tasks are also recognised as skilled and technical and are given appropriate remuneration.

Technology as Culture

More recently, a number of feminists see the newly emerging cultural analyses of technology as a suitable framework for analysing gender and ICT relationships. This framework understands both technology and gender not as fixed and given, but as cultural processes which (like other cultural processes) are subject to "negotiation, contestation, and, ultimately transformation" (p. 44). There is a fundamental difference between this 'technology as culture' perspective and the many studies of women and technology that talk of the masculine culture of technology and stress ways in which boys and men domi-

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nate the design and use of technologies, how the language of technology reflects male priorities and interests, and how women are excluded from full participation in technological work. In the cultural analyses of technology, technologies are 'cultural products,' 'objects' or 'processes' which take on meaning when experienced in everyday life. As Henwood says:

> "Our theorizing of the gender and information technology relationship should not be reduced to the simple 'man equals technology literate, women equals technology illiterate' formulation. Technological meanings are not 'given'; they are made. Our task trying to transform the gendered relations of technology should not be focused on gaining access to the knowledge as it is but with creating that knowledge. By this I mean to be involved at the level of definition, of making meanings and in creating technological culture" (p. 44).

Henwood (and others from the technology as culture view) call for more research from this perspective to understand women's subjective experience and practices of technology and take these as a starting point for definitions of 'technology,' 'technological work,' and 'skill'.

Democratising Knowledge and Technology

Adding an important voice for the South to the gender and technology literature, Vandana Shiva argues the inappropriateness of modern western knowledge and technologies for the third world. Underlying her arguments is the view that the North's approach to science and technology has led to western systems of knowledge and technology (based on a particular culture, class and gender) that are now being foisted on the South. Shiva challenges the claim these systems are universal: "emerging from a dominating and colonising culture, modern knowledge systems are themselves colonising" (p. 9). As a result, this 'monoculture of the mind' (or process of technology and knowledge transfer) is displacing local knowledge and experiences.

Moreover, "the power by which the dominant knowledge system has subjugated all others makes it exclusive and undemocratic" (Shiva, p. 60). In opposition to global capitalism, Shiva calls for an alternative, community-based technology and a redefining of knowledge such as that "the local and diverse become legitimate" (p. 62). Thus, the 'democratising of knowledge and technology' perspective is linked to human freedoms because "it frees knowledge from the dependency on established regimes of thought, making it simultaneously more autonomous and more authentic" (Shiva, p. 62).

Subsistence Perspective'

A number of feminists offer new visions of technology and society that are non-exploitative, non-colonial, and non-patriarchal. Many of these initiatives draw attention to the need for qualitative changes in the economy and oppose the view that more growth, technology, science and progress will solve ecological degradation and economic poverty. Maria Mies offers one vision where technology is conceptualised from a perspective of subsistence based on a critique of the colonisation of women, nature and other peoples. This 'subsistence perspective' is based on and promotes participatory or grassroots' democracy in political, economic, social and technological decisions (Mies, p. 319). Like Eco-feminism, it recognises that power systems and problems are interconnected and cannot be solved in isolation or by a mere technological fix. This necessarily requires a new paradigm of science, technology and knowledge that allows people to maintain control over their technology. Opposing the prevailing instrumentalist and reductionist view of science and technology, Mies' new paradigm proposes to incorporate ecologically sound, traditional, grassroots, women and people-based knowledge systems. As Mies says, "such science and technology will therefore not reinforce unequal social relationships but will be such as to make possible greater social justice" (Mies, p. 320). Although some feminists such as Mitter and Rowbotham are not convinced of the practical feasibility of Mies' "critique of modernization", the 'subsistence perspective' shows a conceptual way forward for an alternative vision of gender and technology.

From the Experiences of Daily Life'

Other voices from the South welcome modern technologies as long as women can have their say in the manner in which technology is adopted. These women are cautious of the so-called "critics of modernization" who "muffle the appeals and aspirations of many millions of less privileged women and men, who are 'hungry' for the information revolution and advanced technologies" (Mitter, p. 17). They argue that it is difficult for women to shift the balance of power if they are to use only indigenous social and knowledge systems in opposition to modernisation and modern technologies. As Mitter says, "women usually have insignificant power over decision-making when they are confined by traditions and constrained by the norms of behaviour in their communities" (p. 17). Third world feminists from this perspective praise the liberating aspects of the information revolution and advanced technologies which, in some circumstances, "gives them economic power, autonomy and the chance to escape the tyrannies of traditional societies" (Mitter and Rowbotham, p. 17). In their writings they demand knowledge of and access to technical know-how and business skills, and welcome international exchange of experience of organising to counteract the pitfalls of the new technologies. As Rowbotham concludes, "a new relationship between technology and gender cannot be devised only in the seminar, it has to be created, by users and workers internationally, from the experiences of daily life" (p. 66).

Gender in Communications

In *Women in Grassroots Communications*, Pilar Riano maps out women's contribution to the debates on gender in communication beginning with the subordinate position of women in the industry. The recurring themes here point to the lack of women's participation and representation in mainstream media, the sexist portrayal of women in the media, the absence of women in the news and current affairs, and women's disadvantaged access to new communication technologies (International Women's Tribune Centre, 1984; Dervin, 1987; and

Moraga & Anzaldua, 1981 as quoted in Riano, p. 30). Again according to Riano, early contributions to the gender in communications debates from women in the South, women of Colour, and other marginalised groups emerged in the 1960s and 1970s. The debates focused on the negative portrayal of women in the mainstream media, demanded equity, and then moved on to emphasise the qualitative differences women make in democratising communications. These collective perspectives suggest that gender identity and the ways women experience subordination are 'connected and mediated' by other variables such as race, class, sexual orientation, age and generation, history, culture and colonialism. Riano points to the creation of coalitions among women in communications as having made the most significant advances. These include women's information networks, women's presses, worldwide networks of independent women filmmakers and video makers, participation of women in journalism schools and mainstream media, and feminist works in media, cultural and communication studies (pp. 30-31). These networks and initiatives create alternative communication channels that articulate other visions of women and act as a form of power that challenges the stereotypical representations of women as passive and silent (Anzaldua, 1990a; Charnley, 1990 as quoted in Riano, p. 31).

Feminist Communications: Diversity and Complexity

Riano's feminist communications' approach is important because it points to the diversity contained in the category 'women' and the complexity of communication strategies and processes. She describes a number of principles and concerns that act as a framework to her typology of 'feminist communications' and link to the debate on the 'democratisation of communications' (p. xiii). These principles and concerns refer to:

◗ Women as the main actor of the communication process including women's control over decision making, planning, access to resources, production and distribution.

◗ Rooting women's communication experiences and ways of

communicating in their social and cultural concerns and background.

◗ Defining communication enterprises as acts of naming and reframing oppressions and as larger movements seeking change.

◗ Considering grassroots participation as critical to the democratisation of communications. This includes a recognition of a variety of communication processes, practices and systems that are distinguished by their grassroots origins (such as women's informal communication practices, networks and associations, or indigenous communication systems and practices). Also critical to the democratisation of communication is the active involvement of a community or group in using communication to produce their own messages and to engage audiences in critical thinking (p. xi).

◗ Identifying women as diverse subjects with different experiences which shape their perceptions and identities — "as subjects of struggles, as partners of communication, as mothers, as workers, as activists, as citizens."

These principles and concerns address the broader issues that connect questions of gender and communication with the various ways in which race, class, culture, sexual orientation, age, history, colonialism, and the social division of labour intersect and shape women's communication experiences and identities.

Some Issues and Observations

Technology and Democratic Process

The loss of democratic control over technological choice is an important issue for women rooted in the historical debates on the impact of technology on society. It is included here because it relates to the APC's dedication to equalising the free flow of information. Writing in the late 1960s, Lewis Mumford's *The Myth of the Machine* describes

the domination of society by a small, powerful elite who uses modern communication technologies to centralise social control. He warns that both individual freedom and community will be submerged by what he calls "the mega-machine" which will "furnish and process an endless quantity of data, in order to expand the role and ensure the domination of the power system." Similarly, in *The Real World of Technology*, Ursula Franklin writes about her concerns about the scale of intervention by technologies in everyday life which results in, what she calls, "a culture of compliance" where technology itself becomes an agent of social control. Today, the monopolisation of global information and communication structures where government monopolies control a huge share of the world's telecommunication flows, while a few immense corporations dominate the world's mass media is a very real challenge to women and the democratic process of society.

Increasing Disparities

The many international and national inequalities in existence in the world today is another important issue for women rooted in the historical debates. Increasing disparities as a result of new information technologies relate to the APC's dedication to lessening the gap between the information-rich and the information-poor. The consensus in the literature suggests that there will be an even bigger gap between the information-haves and have-nots in the new electronic era. The facts speak for themselves. An estimated 95 percent of all computers are in the developed countries. Ten developed countries, with 20 percent of the world's populations accounted for almost three-quarters of all telephone lines. The United States has as many telephone lines as all of Asia; the Netherlands, as many as all of Africa; Italy, as many as all of Latin America; Tokyo as many as all of Africa. (Frederick, p. 288). Thus, it is particularly important to ensure women from the South participate in the new communication processes since they are often marginalised because of inadequate infrastructure and the cost of transmitting data.

Democratisation of Communications

The 'democratisation of communications' is an important issue that appears in the gender and communications literature. It is understood as a process whereby: (a) the individual is an active subject and not only an object of communication, (b) various messages are exchanged democratically, and (c) "the extent and quality of social representation or participation is augmented" (Riano, p. 281). The concept was introduced by the MacBride report *Many Voices, One World* where discussions on a new world information and communication order saw democratisation being achieved through policy regulation and institutional change at the national and international level. Riano adds, however, that all actors, at all levels (including local and grassroots) need to be considered for an adequate debate on the democratisation of communications to be carried out.

Difficulties of Access for Women

The difficulty of access to new information and communication technologies for women is an important issue in the literature. This includes access to hardware and software, as well as to meaningful resources about women. The fact that most computer networks are currently dominated by men raises further questions about women's access to new information technologies (one study quantifies the male domination of computer networks at 95%) (WITS, p. 17). In *Nattering on the Net*, Dale Spender notes that women's marginalisation from the new communication technologies has "less to do with women and more to do with computers" arguing the computers are the site of wealth, power, and influence. She warns that women cannot afford "to permit white male dominance of these technologies because a very distorted view of the world is created when only one social group, with one set of experiences pronounces on how it will be for all." Relevant and useful resources about women will not appear unless women work to create them (often under difficult situations). Since women's knowledge is presently encoded in books, women's knowledge may be endangered if the shift from the print to electronic medium fails to include women

and their knowledge productions along with it. Currently, there are few women in positions of leadership making the decisions about what electronic materials will be constructed and what they will contain. Women's task, according to Maureen Ebben and Cheris Kramarae is "to create, electronically, a cyberspace of our own that fosters women's communication in this time of rapid technological transition" (p. 16).

Failure of Training Programmes

Another important observation found in the literature is the shortcoming of mainstream training methods for women. Most authors contend that the problem is not so much a problem of how to teach women effectively, but that "training is ad hoc, unsystematic, and male-centred" (Ebben and Kramarae, p. 18). In a recent WITS study, the researchers give the example of training offered at computer sites at universities as an illustration of this kind of training. The training consisted of "directions posted on walls, photocopied sections of published manuals left in strategic places, or an hour's worth of group instruction in which participants are led through a manual's directives" (p. 18). They concluded that the instruction is seldom customised and there is little opportunity to follow-up on questions and problems that arise during actual use.

Other commentators suggest that the lack of training is a more severe problem for women than for men because of the culture of technology which "shares an image of machismo and valorizes the adventurer" (Hacker, 1989, 1990 and Turkle 1984, 1988). The difficulty for women is explained in most part because women and men tend toward different learning styles. Studies (Turkle and Papert, 1990) suggest that many women prefer to learn through an orderly routine in which they understand the reason for each step, whereas many men (and boys) have been encouraged to learn through experimentation and trial and error. In addition, women take fewer risks than men do and men prefer to tinker around the new environment. This coupled with male-style, unsystematic learning practices, puts women at a disadvantage.

Women Working in Technology

Mitter's and Rowbotham's anthology *Women Encounter Technology* explores the impact of technology on women's employment and the nature of women's work in third world countries. Their observations provide an "authentic international perspective" on women and technology that can inform further research. Some observations that are particularly relevant to the APC Women's Programme's study include:

◗ *Gender is one of many factors that determine the impact of information technology on women's working lives.* Ethnicity, religion, age and class can play even greater roles in defining women's working position. Similarly, the degrees of exclusivity that arise from the information revolution sharply differentiate regions and communities.

◗ *Technological changes affect the quality and quantity of women's work*. Along with women's employment benefits from new technologies there are associated health, environmental and other costs. Employment issues of concern to women working in technology relate to contractual terms, intensification of workloads, wages, training, and health and safety such as VDU hazards and repetitive strain injuries.

◗ *Increased job opportunities bring new tensions in women's domestic lives.* For example, the case study by Liliana Acero documents the typical life of a woman textile worker in Argentina: "My marriage started to break down when I started to work … I had more chances than he did. So things started to go wrong." Deeper insights are needed into the links between women's status and rolesat work and at home.

◗ *Women are rarely represented in the decision-making areas of technology.* As a number of essays document, women are predominantly only in blue-collar jobs. In the next phase of the technological change these are precisely the jobs that will be vulnerable.

◗ *Upgrading women's skills through a continuous learning process benefits women and society.*

◗ *Radical thinking about training is essential for utilising women's potential.* In particular, training needs analysis must take into account ethnicity, class, religion and age.

◗ *Women's sharing of experiences has proved rewarding at the community, national and international level*. More international exchanges of experience in organising around some of the new issues relating to the electronic era are needed in order to ensure that women's employment benefits brought about by new technologies are not outweighed by the associated health and environmental costs.

WORK SITE SCENARIOS

The above perspectives and issues provide a framework from which to review the practical obstacles and challenges women face working in the field of ICT. As the findings of the study reveal, these obstacles and challenges are complex and the ways people will approach and respond to them will be diverse.

To fully grasp and tackle the realities of delivering communication services and support to over 30,000 women attending the UNWCW it is helpful to consider an even broader context to the study. The 'scenarios' offered below outline the many tasks and challenges undertaken by the four APC teams operating in Beijing: User Support, Information Facilitation, Political-Diplomatic Action, and Training[6]. When this broader context is considered, women's voices and experiences are better understood, and realistic approaches and responses can then be integrated into gender and ICT research and action.

The Team

The primary team for the APC women's communication project consisted of 40 women and one volunteer man in China, three women in London, England, and three volunteer men giving remote support. (And many women and men at several APC nodes giving additional support and assistance). The team in China came from 25 countries: Angola, Argentina, Australia, Austria, Brazil, Canada, Chile, Czech Republic, Ecuador, India, Japan, Mexico, Netherlands, Philippines, Romania, Russia, Senegal, Sri Lanka, South Africa, Tunisia, Ukraine, United Kingdom, United States, Uruguay and Zambia. The majority of the team members were from third world countries.

Eighteen languages were spoken by the Beijing staff: Arabic, Czech, Dutch, English, Filipino, French, German, Hebrew, Hindi, Italian, Japanese, Mandarin, Portuguese, Russian, Sinhala, Spanish, Ukrainian and Wolof. The staff in London spoke six languages: English, French, Kikuyu, Kimeru, Kiswahili and Spanish.

Twelve APC member networks were represented including AlterNex (Brazil), Antenna (Netherlands), Ecuanex (Ecuador), GlasNet (Russia), GLUK (Ukraine), GreenNet (UK), IGC (USA), Laneta (Mexico), Pegasus (Australia), SangoNet (South Africa), Wamani (Argentina) and Web (Canada).

Seven partner networks were represented: Econnect (Czech Republic), Email Centre (Philippines), Endadak (Senegal), IndiaLink-Bombay (India), India-Link-Delhi (India), Lanka (Sri Lanka) and Zamnet (Zambia).

This was by far the most active a computer network has ever been at a UN conference illustrating the vital role computer communications played in the process. This was also the first UN conference where more people used e-mail services than word-processing.

Some Statistics on the Use of the System
(August 30-September 1995)

Free e-mail accounts opened at the NGO Forum	1,700
E-mail messages sent and received	62,000
Visits to the local World Wide Web page	33,000
Visits to the international World Wide Web page	100,000

User Support

The user support team consisted of a core of 17 women associated with the APC, supplemented by a number of volunteers. Some of the technical team members also assisted with support tasks. Two centres were set up and run by the user support team at the NGO Forum and the one centre at the UN conference gave priority to users from Non-Governmental Organisation (NGO) participants.

The main tasks of the user support team involved staffing reception and registration desks, organising the users, allocating computers and e-mail accounts, and providing help and support to users of the system and services. Another important task of the support team was to run the word-processing services and to troubleshoot networking-related problems. It also liased with representatives from Apple and Hewlett Packard who were on site to assist with computer-related problems.

The APC support team was also involved in some of the training and outreach activities during the NGO Forum. This combined well with their support tasks as contacts were made and users were encouraged to use the centres' other services. Major challenges experienced by the user support team in Beijing relate primarily to software selection and the need to adapt it for use over a multi-user LAN. For example, users were required to consistently insert their username and delete mail messages each time they logged onto the system. As with all events,

there were problems with having too few machines and at particularly busy times, usage was limited to 15 minutes. An expressed problem at the UN Centre was the absence of a separate facility for the media, leaving APC support staff to deal with the needs and concerns of members of the media. User support team members were required to work hard and consistently especially as the situation in the centres were often crowded and hectic.

Despite the many challenges, the gains were undeniable: freedom of expression, positive user experiences, having a separate word-processing centre and the sheer amount of women using the centre and the network services. Concretely, 1,700 free e-mail accounts were opened at the NGO Forum; and 62,000 e-mail messages were sent and received.

Information Facilitation

Dissemination of information on the WCW and NGO Forum to people outside Beijing was defined as one of the highest priorities in Beijing by the APC Women's Programme. It allowed a large number of people and organisations not present in Beijing to follow the substance of events, constituting an alternative source of information to that distributed by the press. Information facilitation teams were set up in Beijing and London (plus some help from other sites). The teams included a few people working mainly on information, a number from the user support team, and volunteers from outside Beijing (in particular, Womenznet in Australia and people in the United States, etc.).

Information facilitation involved two essential elements: administration of information (assumed internally by APC) and multiplying information dissemination through alliances and institutional agreements. Information administration tasks focused on establishing criteria for what information should be prioritised and how it would be distributed, and orienting online users in finding the information they needed.

On the input and content side, priority was given to information sources that would enable people outside Beijing to follow develop-

ments around the central issues, including plenary speeches, alternative news services, consensus and official documents, proposals to the UN, daily agenda of events, caucus documents, etc.. Priority was also given to language diversity.

On the information facilitation side, priority was given to:

◗ identifying key documents;

◗ uploading to conferences or preparing in HTML for web distribution;

◗ cross-posting material;

◗ distributing a daily online update bulletin in English and Spanish containing summaries and pointers relating to the information available online;

◗ some translation of documents; and

◗ liaison with other networking providers (to avoid overlap) and NGO groups (to get their information online).

To ensure broad dissemination of information, target audiences were defined to be APC users, users of high cost dialup links, women's organisations with no e-mail access in low-tech areas, and Internet users in general. Various channels for dissemination of information included existing APC conferences, one local conference and home-page for participants in Beijing, an international home-page, selected mailing lists for non-Internet users in Africa, Asia and Arab countries, and an e-mail query system for users on dialup links. Difficulties encountered ranged from lack of necessary infrastructure to overcoming logistical problems in Beijing.

Political-Diplomatic Activities

In addition to being a service provider in Beijing, the APC Women's Programme also put forward proposals in the ICT field, with specific reference to women's access to information and communication technology. Concretely, the APC Women's Programme engaged in 'political action' such as drawing up proposals on gender and ICT issues, lobbying and advocacy work, participation in communication caucuses, and interventions in events underlining the relevance of computer communications.

The APC Women's Programmes' 'diplomatic action' involved broadening the scope of APC's institutional relations through contacts and public relations and establishing alliances so as to be able to exert greater influence. It should be noted that this was the first time the APC has undertaken this kind of activity as an integral part of its programme of activities.

The APC Women's Programmes political-diplomatic activities contributed significantly to introducing the issue of computer communications into the UN and NGO agenda and strengthened the recognition of APC as an authority in the field of computer networking. As a result of these activities, high expectations were created as to the contribution computer networking can make to follow-up activities to the WCW and around the possibilities of creating a global online women's forum.

Training

Although the training team was active at both the NGO Forum in Huairou and the official conference in Beijing, training activities took place only in Huairou. A number of circumstances shaped the training approach that was taken in Huairou. For instance, there was no dedicated space to carry out training activities (the APC-run centres were too busy to accommodate training sessions). However a pavilion was

set up by the Once and Future Action Network (OFAN) to host and run women's activities in science and technology. APCWNSP training activities therefore focused on:

◗ reaching out to women at the regional and issue-based tents in Huairou;

◗ running orientation sessions offering a general introduction to electronic networking for women and their organisations;

◗ holding joint activities with OFAN as well as participation in OFAN-run activities; and

◗ running hands-on training for small groups at the APC communication centre when activities there were less crowded.

Production and distribution of outreach and training materials was another task undertaken by the training team. There were no members *per se* to the training team — only coordinators who organised sessions with support from members of other APC teams. Because participants were mainly women who had no previous experience with computer networking technologies, the APC training strategy worked well. Sessions took place in environments were participants felt comfortable and the APC training team was able to customise outreach and orientation activities to the specific need for communication and information exchange and to the extent of each groups' initial understanding. No computers were used in these sessions, instead training was directed to practical examples of women's experience in communicating and sharing information. This involved bringing to group discussions the experiences of women who use electronic networking and why they use these tools. Orientation sessions often led to visits to the APC Centre by individual women or appointments to run hands-on training sessions for small groups.

Part II:
Methodology

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Research Design and Participants

Research Tool

Data Gathering and Analysis Techniques

Limitations of the Study

RESEARCH DESIGN AND PARTICIPANTS

When the APC Women's Programme was first conceived in 1994, the need to develop and disseminate a core body of research in the area of gender and information technology was a vital objective. Several discussions through the years have shaped the specific focus and shape of research activities:[7]

◗ At the Fourth World Conference on Women in Beijing in China (September 1995), the members of the programme felt a need for *the documentation of their experience in assisting conference participants, as well as their thoughts and reflections on such an experience.*

◗ At the Africa regional training workshop in Johannesburg in March 1996, the discussions focused on *the importance of actual research data to support the women's movement, policy advocacy and projects that address real needs and promotes the development of information technology policy at the local, regional and global levels*. The 1993 International InterDoc-Aspac workshop in Kuala Lumpur in Malaysia was cited as an important model for planning ICT women-led interventions. The workshop was exclusively of women and for local women, and the women demanded space for them to participate in training aspects of the workshop. They also demanded for the only woman resource person during the workshop to organise appropriate training sessions. Another experience cited was the APC Women's Programme's subsequent first women's training workshop held in New Delhi in India (January 1995). At the programme meeting held in New York in June 1996, participants agreed there was a need to highlight *the perspective of women and the impact of information technologies on their lives*

and on their societies, in developing countries. The members agreed that *participation of the individuals and organisations concerned in research conception, implementation and evaluation is fundamental*.

The needs expressed in these discussions and the agreement reached at the New York meeting led to the launching of the programme's first formal research and evaluation project. The project documented findings and recommendations on women's global networking from a survey of 700 individual women and women's groups around the world. Where there was none before, there now exists an initial study documenting women's needs, challenges and activities as *'users'* of the new computer networking technologies, and an electronic databank of women's electronic tools and resources.

It was during the design stages of the first research project that the need to develop an independent study focusing specifically on women as *'workers'* in ICTs emerged. Originally, it was intended that 'rider' questions for the APCWNSP team in Beijing were to be attached to the questionnaire of the first research study. Recognising the unique needs, opportunities and challenges of the APCWNSP team in Beijing, a second research study was proposed to explore in more depth the experiences of the individual women who participated in the design, development and implementation of APC Women's Programme's communications activities at the UNWCW. The participants in the second research study were identified to be:

◗   the 40 members of the team which ran the communication facility and services in both Huairou and Beijing;

◗   the members of Beijing coordinating team;

◗   the Node (or other) representatives to the APCWNSP;

◗   the members of the remote information teams based in London (England), Nairobi (Kenya) and Lusaka (Senegal); and

◗   the women linked to Beijing activities through specific node or other activities such as the Melbourne Online Beijing event in

Australia, regional preparatory meetings, or training activities leading up to Beijing.

One volunteer man based in China, and three men giving remote support were also included in the survey sample.

The research study formally commenced with the formation of a research team in 1997. The team, which consisted of a research coordinator from the Philippines, a principal researcher and a researcher/technical assistant from Canada, undertook most of the design, technical support, data gathering and analysis, writing, and other tasks. Six 'critical reviewers' from around the world were mobilised to comment on all aspects of the study at various times, from design to analysis. These reviewers were drawn from the team of coordinators in Beijing and/or regional representatives of the programme based on their willingness and availability to participate as a member. They came from Australia, Canada, Ecuador, Kenya, Mexico, Netherlands and Senegal.

An electronic conference and Listserv were set up to serve as a private workspace for the research team. Periodic postings were made to the broader private conference workspace of the APC Women's Programme.

The research design and methodology adopted by the team were similar to the one developed for the first research study. It was participatory in that the research team engaged members who are directly involved with the women working with new technologies. In this case, the critical reviewers had been team coordinators in Beijing and/or regional representatives to the programme working in close collaboration with the informants of the study. For data to be educational and empowering for the stakeholders, the design was linked with action by ensuring the results of the study were "popularised" and distributed widely. To add scope and breadth to the study, both qualitative and quantitative methods were used in gathering data. Another important feature of the design was its incorporation of a 'learning-by-doing' mentality to ensure that the work of the APC Women's

Programme is constantly under critical review and that it informs longer-term programming.

In order to place the issues and experiences of the APC Women's Programme study within a broader context, a review of the latest literature concerning the field of gender and ICT was also undertaken.

RESEARCH TOOL

As with the first research study, an e-mail questionnaire (see Appendix 1) was the main research tool used to collect data. The tool was chosen because the target population were network users and global in scope, and because of time and resource constraints. Experience using this tool to gather data for the first research study had demonstrated its ease of application and reliability.

An electronic survey package was developed in English, comprising a five-page questionnaire and cover letter. Budgetary and time constraints prevented translations into other languages. The questionnaire combined both open-ended and structured questions on selected topics relating to women's experiences working with ICTs, in general, and the APC Women's Programme, in particular. Open-ended questions were used to find out which aspects of an issue were uppermost in the respondent's mind. Where the range of answers was limited and well-established, structured questions were used such as a list of possible responses to be checked off in order of priority. The key areas and questions addressed were as follows:

1. "Identifying Ourselves and Promoting Our Skills" asked participants to fill in a form about their skills and experience so that the research team could compile a roster of women and electronic communication 'specialists.'

2. "Sharing Experiences" asked participants to identify their knowledge, skills and needs, factors that work with them and

against them, how they link their day-to-day job with APC tasks, how their experience in Beijing benefited or affected them, etc.

3. The uses and applications of, and suggestions for, new or improved tools and technologies to support women's global networking were explored in "Examining Our Use of Technologies." This section also examined what role these technologies play in helping women overcome barriers and communicate in new ways.

4. In "Reflecting on Our Work" participants were asked to identify any achievements, shortcomings and influences of the programme, and to rate overall outcomes.

5. "Reflecting on Our Composition" focused on the internal decision making process and the structure of the APC Women's Programme. This involved inquiries into their perceptions of such matters as decision-making processes in the programme, the role of the APC council, criteria for participation, issues of membership exclusivity, and the role of regions in the global programme. The survey participants were also asked to give suggestions for new strategies and mechanisms to provide support women working in new technologies.

6. "What Are You Doing Now" explored participants' current work and uses of knowledge and skills developed through their association with the programme, as well as their involvement with APC and/or the APC Women's Programme.

7. The final section "Where Do We Go From Here," asked participants to share their vision and what they need to be able to carry out their work and to position themselves for the future. Participants were also asked to share any further comments or suggestions not covered in the questionnaire.

The cover letter (see Appendix 1) was designed to stimulate reflection and encourage responses predicated on the fact that the respondents felt that they were part of the process. Trust was created by assuring that any identifying information would not be used in a pub-

lic report without specific consent, and by indicating that copies of the summary of findings would be shared with all respondents. The original deadline for the completion of the survey was mid-June. However, this was extended to allow additional time for the respondents to complete and return the form (see Appendix 2).

A researcher in Canada compiled the e-mail list of recipients using existing lists and contacts from the Beijing project. To ensure accuracy, the list was posted to the main, private conference of the APC Women's Programme for review by all members.

The survey package was then set up as one electronic message for distribution to the target participants. The same mail alias tool developed for the first study was used to conduct multiple mailings from a generic women95@web.apc.org e-mail account. The tool kept a log of any incorrect addresses and removed these for the "reminder" mailing.

DATA GATHERING
AND ANALYSIS TECHNIQUES

A researcher from Canada logged into the "women95" e-mail account daily for responses. Copies were sent to the personal e-mail account of the second Canadian researcher for printing, coding and analysis, and to a private conference for sharing with the entire research team and for data storage.

The reading, coding and analysis process began immediately after the first deadline and continued as the surveys were received. Responses to the structured questions were entered into a spreadsheet file to calculate averages and to identify patterns and trends. For open-ended questions, a simple coding frame was developed for reading the responses, coding any patterns and relationships, and selecting certain materials to serve as examples to reinforce the findings. These

were then transferred into a large word-processing file following the format of the questionnaire. A printout of this file was used in conjunction with the spreadsheet files for analysis and preparation of the final report. Periodically, the research referred back to the original responses for clarification and as a source for embellishment.

The results, methodology and conclusions drawn from the results were drafted into a final report which was circulated, and discussed among the research team. The ideas generated in the discussions were then incorporated into this final report written primarily for the APC Women's Programme, selected groups and individuals, and the respondents of the questionnaire.

LIMITATIONS OF THE STUDY

A number of safeguards were built into the design in order to minimise some of the potential weaknesses associated with survey research. For instance, to enhance the willingness and ability of individuals to respond to the survey, questions were kept simple thus minimising the need for assistance. The cover letter, signed by the project director and research coordinator, was clear and concise, and communicated to the respondents that their assistance was needed in addressing the issues. A follow-up message reminded respondents of the research objectives and extended the deadline of the survey to accommodate hectic workloads and travel schedules. A number of members of the research team applied lessons they learned in carrying out the first research study to the second study. This, along with the qualifications and experiences of the research team in the area of women's global networking, and familiarity and collaborations with the informants helped to minimise other potential weaknesses.

Despite these safeguards however, the following limitations should be considered when reviewing the findings:

◗ **Narrow in scope**. The study confines itself to the women working on APC communication activities around the UNWCW in Beijing. It should not be generalised to all areas of gender and technology.

◗ **Bias**. As in any study that uses qualitative methods, the findings could be subject to other interpretations.

◗ **Length of survey.** The questionnaire was five pages in length which may have had an effect on response rate given the workloads of women highlighted in the responses.

◗ **Language.** The survey package was sent out in English only. The target participants represented 25 countries and spoke 18 different languages.

◗ **Survey fatigue.** A number of the informants had participated in the first study, which may have affected their willingness and ability to participate in a second study.

◗ **Conference weariness**. The Beijing conference experience had been both mentally exhausting and physically challenging for participants, which again may have affected the participants' willingness and ability to respond to the survey.

Part III:
Findings

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Sharing Beijing Experiences

Examining Our Use of Technologies

Reflecting on Our Work

Reflecting on Our Composition

SHARING BEIJING EXPERIENCES

Global Participation

Survey responses were received from 20 women and four men representing the following 15 countries: Argentina, Australia, Austria, Brazil, Canada, Ecuador, India, Kenya, Mexico, Philippines, Senegal, Ukraine, United Kingdom, United States and Zambia.

Diversity of ICT Roles Undertaken

Survey respondents undertook a diversity of ICT tasks and responsibilities in support of the APC women's communications project. These range from:

◗   translation services to developing tools for e-mail retrieval in Africa and Asia;

◗   representing APC at daily site meetings between APC, Apple Computers, Hewlett Packard China and the Chinese security forces, to rallying women to participate;

◗   configuring and running Unix servers and their software, to lobbying the UN for a new ICT strategic objective in the Platform for Action;

◗   moderating and maintaining Beijing-related conferences, listservs or Web sites, to providing childcare for a team member; and

◗   running country or regional activities linked to the global conference, to developing curriculum and running training workshops in Beijing.

Common Needs

Technical, information facilitation and networking skills, as well as resources such as funding to undertake country activities, and experience working with women from different countries were common needs women identified when they participated in the project.

Women from the South identified a common need to learn Internet software and tools.

Networking with other women who were working in the ICT field was an unanticipated need identified by some.

The majority of respondents to the survey felt these expressed needs had been met through their involvement with the project.

Time Constraints Rank Highest

Time emerged as the biggest constraint working against women participating in the APC Women's Programme. In particular, trying to balance day-to-day work with increased workloads associated with project activities.

Language barriers, lack of technical skills, and no clear guidelines on how to participate in the programme were other important constraints identified:

◗ "Lack of financial resources, at least during the first 18 months of the program, and the large amount of time that had to be dedicated to this."

◗ "Coordination from Ecuador was at times difficult due to insufficient infrastructure and connectivity."

◗ "As I only speak English, language is a major factor constraining my involvement in activities for Beijing, and continue to be so in terms of the women's programme in general."

◗ "We didn't have full Internet connections at that time (they only
started in 1996). Only academics could have them. Government
at that time did not allow individuals to get Internet connec-
tions. I remember that in order to do my job I had to go…
about 25 kilometers from my place to the Faculty of Psychol-
ogy where a professor who was a friend of mine was willing to
let me use his connection. It sounds crazy now and of course
for me it meant a great waste of time in the train and subway
(though I used it for reading and preparing for my work.)"

Opportunities: Mentoring and Access

Mentoring and access to information and technologies ranked high-
est among the 'opportunities' working with women in doing their work
for the programme. These were followed by others such as support
from node, boss and/or colleagues, and working within a women-led
programme. As one woman wrote: "I found working
within a women-only programme, and particularly the
day-to-day work with the women's committee, a very
valuable and stimulating experience. I particularly ap-
preciated the team spirit in Beijing and despite the
enormous pressure, found it a very positive experi-
ence."

Policies ranked lowest in the area of opportuni-
ties. As one woman wrote: "Policies regarding deci-
sion making, accountability, responsibility could have
had more clarity."

<!-----------QUOTE---------->
"My aim in working for the APC
programme was to contribute to the
development of the women's move-
ment; to greater democracy and
broader participation in the move-
ment; to information sharing; to em-
powering women through access to
relevant information and to a more
effective means of communicating."
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Impacts: Useful and Empowering

Working on the APC women's communication project had an impact
on respondents' personal lives, work, and community, and as these

comments illustrate, the experiences were both useful and empowering:

- ◗ "(It) made me more determined to stand up for myself as a woman and (showed me) how I could be a part of something that was bigger, which could change people's perceptions and lives."

- ◗ "I think it mostly had an impact on me in my work in helping me realize what I was capable of doing and that I did have good skills. This, of course, boosted my confidence and helped me in my personal and community life. I have since branched out into being much more curious and demanding technical answers and learning, and doing more technical user support"

- ◗ "I was able to grow in knowledge and skills and my work as a journalist was widened with this experience. I was also able to see how my work could be shared with a wider community all over, both in my country and abroad."

- ◗ "Meeting women from other networks and backgrounds helped me gain a better grasp of some of the issues and problems of women's networking which helped me understand how they impact on users who I deal with on a day-to-day basis."

Other comments on the impact of the project offer insight into women's unique experiences working in online environments:

- ◗ "Time and distance have become even more elastic for me."

- ◗ "I have a venue to practice my skills and share my knowledge that is not limited by being in certain physical spaces and at particular times. The negative side of this is I miss and long for my direct grassroots activism and face-to-face training and in-teractions and conferences."

- ◗ "I have redirected myself to the online feminist community and I'm continuously seeking ways to expand feminist cyberspace by mentoring other women."

Opinions on the impact on community focus mainly on the individual women using the communication services and support in Beijing:

▶ "All women who participated were empowered by their exposure to the technology, usually their first e-mail or the Web. It is important that they were exposed in such a friendly manner, probably a rare opportunity."

▶ "Visitors and participants… have a lasting impression of the potential for global collaboration and communication in non-traditional ways."

Negative Impacts

Commenting on the negative impact of the experience, some of the women wrote:

▶ "My physical absence from the office left repercussions that impacted for months… there were many intra-office jealousies and unrealistic expectations."

▶ "It left me shattered and exhausted."

▶ "Well, it took up a huge amount of time and effort, long work hours, required a lot of travelling, and that had an impact on myself, my health, my family, my office, etc. But it also had some very positive and rewarding input (experience, learning, contacts, etc.)."

Linking Work Activities

Most women who worked on the APC communications project had regular day jobs. Despite the long working hours and other hardships with balancing workloads, the majority of respondents used creative ways to link experiences and apply any lessons learned, as these two comments illustrate:

◗   " … The two were intrinsically linked. I promoted the technology for women's organizations by talking about the possibilities of the communications centre or citing documents available in conferences. My experience in Beijing and the women I met (users as well as members of the APC team) has been shared in many different training and promotion sessions to interest women to get online, talk about technophobia, offer examples of women technicians and best use practices, etc."

◗   "I find that the collective and consultative nature of the women's programme added insight into the collective nature of where I work on a day-to-day basis."

EXAMINING OUR USE OF TECHNOLOGIES

Women Working with ICTs

Many examples of how women applied ICTs in the lead-up to Beijing were shared in the responses, from using simple e-mail tools to communicate or share information, to running a mailing list or Web site.

Perhaps this statement best illustrates the use and effectiveness of these technologies to the project:

" … it is particularly worth mentioning the experience of coordinating a programme on a day-to-day basis with a team working on three continents, as well as the broader coordination over all continents using this technology. It was a vivid and concrete demonstration of what you can do with this technology."

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<!---------QUOTE----------->
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"The example of an all-women team was very important for me… I think having a women's voice doing user support, or a woman installing modems and software is absolutely necessary to be seen and pushed as an image, particularly in Mexican society."
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Forming New Groups

Just over half the respondents (14) formed new groups or started to communicate in new ways with the women in the programme or with other women working on Beijing-related issues. The following examples illustrate the many ways this was happening:

<!-----------QUOTE----------->
"Sometimes because activities I am doing in my country are very new and pioneering, I feel myself very single. I feel a lack of understanding and a weak hope to change the situation. The best medicine from this illness is an e-mail message from partners that understand you and believe in the goals you are trying to reach. This is the most important value from the APC women's programme. "
<!---------ENDQUOTE--------->

◗ "I worked … to guarantee connectivity for an information pool of journalists and alternative media, that disseminated information from the event through the Internet. Subsequently, I worked with some of these and some other organisations on setting up links from Beijing to their home countries, so that there would be an information flow, not just on the Internet, but also channels for re-disseminating the information locally."

◗ " … e-mail technology was still so new for women's organisations at the time that just using e-mail was a 'new way' to go about things."

◗ "I think that working (electronically) with other networks like the International Women's Tribune Centre, Women's International League for Peace and Freedom, etc. was quite new (as was) working with groups outside of the immediate APC circles. This in itself contributed to the more outwardly focused nature and style of working of the women's programme, as we know it now. I also believe that the fact that there was relevant information, important to women activists not attending Beijing, allowed for new relationships to emerge purely via electronic mail. In general, I think the collective nature of working contributed greatly to the working ethos of the women's programme now."

Other responses to this question highlight the barriers women face using new technology and how such barriers prevent women from

forming new groups or communicating in new ways. As one woman wrote: "The problem is that if you'd like to start communicating with women in the Ukraine involved in the follow-up to Beijing through e-mail you must supply them with modems and computers… most of them don't have equipment."

Women's Empowerment Through ICT

A number of examples of how women's lives and work were empowered by exposure to ICTs and the APC women's communication project were shared in the responses, including the following:

◗ "I think that my professional skills were enriched and widened by my participation in the APC women's programme. I've used a lot of the programme's position papers on women and technology when writing articles or preparing presentations in meetings on women's concerns. I'm adding this dimension to my work on women's issues."

◗ "The contact with a wide variety of organisations, experiences, cultures, ideas, etc., has been very enriching, and has given me a much broader and deeper understanding of the issues relating to women, networking and new technologies. Also, taking on the challenge of coordinating a worldwide programme obliged me to assume new responsibilities and discover new capabilities, as well as recognise shortcomings. This has also meant increasing recognition as an 'expert' in the field, which in itself can be empowering but also bring new responsibilities and careful dosage so that it contributes to and doesn't distract from the central aims of my work."

◗ "I would have let FAVNET die a natural death due to poor pseudo-feminist management. Because I know what a women-only team could do, I reformed it under women-owned and -operated management and it became much more effective."

Complicating Women's Lives

Examples of how women's lives and work were further compli-
cated by their exposure to ICTs and the APC women's communication
project highlight the many pitfalls of working with the newer tech-
nologies, as these comments illustrate:

◗   "Time is the crucial factor. ICTs do seem to feed on themselves.
     For every one communication you write, you seem to encour-
     age 3-4 responses, and hence have 3-4 responses that encour-
     age 10-15 more responses, and so on. ICTs tend to encourage
     you to see everything as more time urgent, maybe by the very
     nature and speed of ICTs as compared to more traditional non-
     ICT tools. That has a negative impact on your personal life, if
     you still have one."

◗   "Too much time in front of a computer. Too much informa-
     tion. Too many messages and not enough time to answer them.
     The difficulty of learning how to balance the increasing de-
     mands of participating in multiple networks with getting on
     with the job. Too much time dealing with technical problems."

◗   "My eyes are very bad now and my back from computer stress."

◗   "I get an overwhelming more than 100 messages a day… this
     I find very tiring sometimes. I also spend too much time in
     front of the screen, up to 13 hours a day with very little breaks.
     Back problems, eyestrain and headaches, poor eating habits,
     no social life, except the friends I have on the Internet."

◗   "The technology means that work never ends and I take my
     work home with me often, to the detriment of my family."

Issues of Gender

Most respondents to the survey (15) encountered some issue of
gender as a result of their participation in the project — such as
stereotyping, issues of power, control and identity, or the different

ways men and women communicate. Examples cited in the responses include:

◗ "There were a few strong APC supporters who had worked at other UN events who were upset that men were not welcome in Beijing. It took a lot of discussion to get an all-women team, to get people to understand why an all-women team was important, to get individual men to not be mad about this decision, and to get APC men in general to not feel alienated from the programme."

◗ "I have been in training situations where the men didn't think I would be appropriate to train them. In one particular instance, I was scheduled to train and a man took over and completely and deliberately ignored the fact that I was meant to train the group, not him."

◗ "We did an on-site set-up at (a) PrepCom where most of the technical advice we were getting beforehand was from male technicians (who I find don't listen when you tell them what you want and impose their own ideas, however unrealistic, on how they think a communication system should be best set up) without taking into consideration the constraints you've explained to them. To this day, I'm still not sure the way we configured our communication room was appropriate. We also ended up with an on-site male 'techie' who kept fiddling with the set-up instead of just leaving it alone so that women could get on with using it! Again, an inability to deal with practical concerns before the technology concerns. We got to design our Beijing on-site set-up and support in ways that make sense to women's use of ICTs, which was great! We were able to implement a gender-sensitive approach to the service we were offering in terms of training, support, support materials, etc."

◗ "My boss did not accept that I had made an impact on the community through my pioneer involvement in the development of ICTs. The university left me out of being a board member when

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the (ICT) project I participated in developed into a company …
and invited other people who were e-mail and Internet blind to
serve on the committee… that hurt me very much!"

◗ "I was harassed at work for being a feminist so I petitioned and
obtained a company-wide mandatory sexual harassment training
course."

Issues of Exclusivity

When asked whether any issues of exclusivity arose as a result of
their participation in the project, nine of the respondents to the survey
said "no," while eight said "yes."

Examples offered focus specifically on issues of exclusivity as they
relate to the decision-making process within the APC women's
programme and to activities to support women's global networking:

◗ "I think there were more issues of 'inclusivity' than 'exclusiv-
ity' at the level I was involved at. (For example) a frustrating
thing was having long meetings at the end of the day with the
entire team present… it was nice to all be together but imprac-
tical for the many issues we had to deal with."

◗ " … I did prioritise groups … other networks, information pro-
viders, people with a commitment and reason for using e-mail.
This does not mean that others were excluded but they were
not necessarily given close follow through."

◗ "At least at one stage there were some misunderstandings or
disagreements about the internal decision making process due,
I believe, in part to differing backgrounds and expectations of
the programme. I think these differences were aired in time and
largely resolved."

One woman commenting on exclusivity in the decision-making process
asked: "How can we engage those who have ideas and share and feel
just as committed or want to, but feel inhibited to participate?"

Ratings of Overall Experience

Overwhelmingly, women felt their experience working with a group of women on a computer communications project was very significant (20).

When asked "in what way" it had been significant, the following themes recurred:

◗ *Mentoring*:

"The domino empowerment effect (was happening). Seeing people we've just trained in basic computer use make friends with new visitors, proudly showing them how to use the computer or the Internet."

"I gained a lot from the mentoring and support from other women."

◗ *Empowering*:

"It was one of the most important events in my life."

"It was important for me to know that other women are as daring as I am. When I came back to (Africa), I was able to talk with authority on the technology."

◗ *Women-led, Women-defined*:

"The inherent gender bias of the ICT environment was redressed considerably by having an all-women team. That contributed towards a spirit of trust, confidence, cooperation and a feeling that we were all in it together."

"It was the first time in my computing life that I had ever been able to work with women in a technical way. Always my teachers and co-workers had been men. I was delighted to work alongside so many women who knew so much more. It was significant that the women using the centre saw so many competent women. It was a pity that Apple brought so many men as their presence diluted the contribution and effect of the APC women's team."

"Working only with male technicians in my daily job, I just enjoyed having competent technical women around. Also, it helps me to better understand other approaches. I personally tend to approach computers like men and often, I am not patient enough with different approaches."

◗ *Women's global networking*:

"This is the first worldwide programme on women's networking, and (it) had a significant impact on how women's organisations approach new technologies as well as make an important contribution to participation in Beijing."

"It was a great success and we managed to get around and over all kinds of hurdles to be there and participate and offer access and training to other women."

Three respondents to the survey ranked the overall experience as moderately significant, while two felt it was insignificant. One male respondent wrote: "(The experience was) only moderately significant because I didn't need to play a very large role, the women did most of the work." One woman felt the overall experience was "insignificant, in terms of concrete benefits and positive changes in the lives of women in remote communities."

REFLECTING ON OUR WORK

Project Achievements

A number of project achievements were highlighted in the findings, the most common of which can be grouped as follows:

◗ *Professionalism delivered*: "High quality, efficiency and excellent team work. I felt welcomed and part of the APC team from the beginning and meeting APC people face-to-face for the first time was like meeting old friends."

◗ *Empowering women*: "The APC women's communication project provided the women the opportunity to have access and control over NIT. It also provided the information they need. It gave the women a sense of being empowered and un-marginalised."

◗ *Long-term networking benefits*:

"Becoming a reliable, long-term programme with a global base of contacts who exchange concerns, suggestions, ideas regularly."

"To have made links that have continued with so many women's organizations."

◗ *Global participation*: "To have involved so many women from so many different countries."

◗ *Strengthening women's ICT capacity*:

"To be able to work with women who had never ever used a computer before, and help them send messages to their loved ones back home letting them know they were OK. I think many simple achievements like this make a HUGE difference."

"The Programme has helped many women's organisations to demystify technology to see it as a tool to be harnessed for their own aims."

◗ *Contributing to ICT policy and lobbying efforts*:

"Succeeding in getting text regarding women's access and training in ICTS in the Beijing Platform for Action."

"The Programme made a significant contribution in the field of policy, relating to women's access to and use of communications technology, much of which was incorporated into the Beijing Platform for Action."

"Getting section J on women and media in the Platform for Action."

◗ *Facilitating information exchange around the WCW*: "On-line information flow during the Beijing Conference was the best organized at any of the UN world conferences and through previous organization of dissemination mechanisms, in some cases provided a short-circuit to the misleading information coverage of the mainstream media."

<!-----------QUOTE----------->
"Never, ever has e-mail been used so effectively for a single purpose — to get news out about what is happening with women in general and at the conference in particular."
<!---------ENDQUOTE--------->

"Helping so many women get the word out, and get the info they needed while at UNWCW."

"Information flowed in and out of the conference, people learned how to disseminate information and send messages in ways they had not known before."

◗ *Fulfilling aims and goals:*

"Succeeding at pulling the whole thing off despite all the obstacles!"

"To bring together 40 women to Beijing to work together during three weeks."

"We did it!"

"Fulfilling its aims and goals and continuing to do so."

"The APC women's team succeeded because it was all women and the women were from every continent."

"An all-women group pulled it off."

"Show the world that 'we can do it!'"

"It happened, it was successful."

◗ *Successful team work*: "The entire team made it, the team felt like a team for the vast majority of the participants."

Shortcomings

The shortcomings of the APC Women's Programme which were identified in the responses highlight the many problems of running a global programme with limited resources. These can be grouped as follows:

◗ *Some momentum lost*:

"The Beijing team broke up, in a way, after the return to our countries. In my opinion this had to do with the lack of coordination of the women's programme. It was not clear who was responsible. If the team spirit would have been carried on, I am sure we would have been able to achieve much more. Now we have lost contact with some, others felt isolated or not supported and/or left APC, etc. In general, I feel we lost some momentum and invested energy."

"Much of the momentum gained in Beijing was subsequently lost, and in some places the Programme lost ground, at least temporarily."

◗ *Skewed regional representation*:

"No balance between regions [that] participated."

"Not enough happened for and in the Arab region."

"We need more presence, more promoters at local and national levels, and to not be constrained to where there are APC nodes."

◗ *Some individual needs unfulfilled*:

"We were not able to attend to the needs of all team members in a satisfactory way. I believe support on a personal level for the technical team was insufficient. That said, the unusual

amount of bureaucracy that the coordinating team had to deal with, left less time for looking after the individual needs of all team members."

"Lack of clarity of (the) needs and organised way of orienting new participants."

◗ *Hazards to women's health*: "Speeding the life — stress."

◗ *Poor communication flow*: "Lack of opening communication channels between all the official women's representatives at APC nodes."

◗ *Poor planning and coordination*:

"Lack of clear objectives, team governance, participatory planning for the project."

"Timely outputs of planned projects, reports (my fault too here) and general running of the programme — not enough reporting back on the activities we are doing."

◗ *Lack of resources*: "The project was slow to get off the ground (largely due to lack of resources), which meant that the real impact began very shortly before Beijing, leaving little time for women's organisations to plan better how to use the technology."

◗ *Limited control over external factors*: "Any of the project shortcomings were caused by external forces, not the project itself." Another, commenting on the relationship with Apple and the UN system felt that the APC Women's Programme had been made invisible by Apple and marginalised at the UN site.

◗ *Language barriers*: "Maybe the language barrier is always a problem. I could point to this as a shortcoming, that is, it was not always considered that not everybody could understand English perfectly and it was worst when the conversation was informal and many idiomatic expressions were used."

One woman wrote: "I think there are still things to be developed, so I don't think that at this point we should talk about shortcomings."

Project Influences

While the project influenced individual women the most, it also positively affected far-reaching activities.

Ranking of Project Influences	
Regional and/or other preparatory WCW activities	13
Activities or outcomes of the WCW in Beijing	15
Activities or outcomes of the NGO Forum in Beijing	15
Individual women	20
Specific women's groups	19
Women working in the computer communications field	16

Summarised below are the examples of project influences as shared by the survey respondents. Their comments highlight the significance of the project's achievements on individual women and women's groups, and their global networking efforts around the UNWCW:

Project influences on regional and/or preparatory WCW activities:

◗ "Opening communication possibilities globally. Enabling access to electronic networks at all levels, and encouraging the use and awareness of these channels."

◗ "On-site communication set-ups and training activities at the regional meetings and preparatory meetings certainly went some way to demonstrating the possibilities of e-mail. One example comes to mind. During the African regional meeting, there was a need to refer to precedent UN documents from previous UN Conferences, to support a human rights intervention during

the meeting. Using simple e-mail (we had a simple Fido set-up) we were able to request these documents and had them on-site within half a day. This did make a difference to the interventions/actions of the human rights lobby during the meetings."

◗ "The project allowed women to access documents and info online much faster than they would have by postal mail, which meant they could get some input back to the organisers. The project also got the organisers to distribute their info online, which they likely wouldn't have done otherwise."

Project influences on individual women:

◗ "Many women told me the conference changed their lives."

◗ "I know of many individual women who were inspired by our activities during Beijing — either to get connected when they got home, organise on-site communication projects at their own conferences etc., or to be aware of the potential of ICT for lobbying and advocacy purposes."

◗ "Women realised that NIT are tools (particularly e-mail) that can and should be used to help women in their day-to-day tasks especially women who are involved in advocacy and campaigning issues."

◗ "Individual women saw how it worked and were able to understand ICT and began to realise that they could use them in their work and for personal communication.

Project influences on specific women's groups:

◗ "Some women's groups learned how to use the online technology better and thus were better able to organise and empower their work. Some groups were introduced for the first time to what online technology can do."

◗ "Women's organisations realised the importance of ICT when they were able to communicate with their colleagues and counter-

parts who could not attend the conference and allow those who were absent, to still have input into discussions, etc."

◗ "The Programme has helped many women's organisations to demystify technology to see it as a tool to be harnessed for their own aims."

Project influences on women working in the communication field:

◗ "We had APC women trained and helped so that they could perform very well at WCW."

◗ "It influenced women working in the ICT field by being an example of an all-women on-site communications set-up."

◗ "The Programme made a significant contribution in the field of policy, relating to women's access to and use of communications technology, much of which was incorporated into the Beijing Platform for Action."

◗ "I think that many women, certainly some in our team, working in the field of ICT could have attributed the Beijing experience to furthering their career work in this field."

◗ "Having women set up and run the computer centres in Huairou and Beijing modeled to other women that this technology was appropriate for and could be maintained by women. It also showed some business computer women that the technology could be used for social purposes."

Project influences on activities or outcomes of the WCW in Beijing:

◗ "APC [was] able to input into the section on media and communication in the Platform for Action"

◗ "It helped some groups in Beijing send regular information about women's conferences to their countries."

◗ "Online information flow during the Beijing Conference was the best organised at any of the UN world conferences and… in some

cases provided a short-circuit to the mislead-
ing information coverage of the mainstream
media."

◗ "The work of a small group of women, work-
ing with other networks at WCW, successfully
lobbied for a new strategic objective in the
Women and Media Chapter of the Platform for
Action.

◗ "It helped women organise to get ICT friendly
language into the official and other documents."

***Project influences on activities or outcomes of
the NGO Forum:***

◗ "The NGO Forum were open and sensitised to
the use and possibilities of ICT and this filtered
through to those who were at the Forum."

◗ "The communication activities during the NGO
Forum were unique. I don't believe there has
ever been an NGO Forum possibly with the ex-
ception of the Rio conference — when so many delegates had
access to communication and information sharing tools. Also,
the press made good use of the APC communication project as
they were somewhat restricted by the official Chinese Internet
Booths."

One woman added that the project "even influenced the people
from Apple who were the Mac 'techies' while we were there."

Outcomes and Activities:
Very Significant

Most survey respondents (18) felt that the activities and outcomes
of the APC women's communication project were very significant:

<!-----------QUOTE----------->
"I think that introducing computer
communications helped to activate in-
formation exchange in the regions and
among women and women's groups.
The Women's Programme did a great
job organising information on-line. I
don't say it because I was part of that
work, but because the amount of in-
formation you get on-line is huge that
it intimidates people, especially new
users. So this factor added to a gen-
der-sensitive training and user sup-
port at the conference and preparatory
processes were of great help and they
influenced the way women organised
and prepared for the conference. They
could rely on the information the
Women's Programme produced and
they could get advice from APC tech-
nicians to get introduced to IT."
<!---------ENDQUOTE--------->

◗ "I think it has been a pioneer programme that has prepared the way for a new way of networking, for a new way of empowering women where they are, facilitating opportunities for information, communication and knowledge, plus more contact between women from different cultures, races, countries."

◗ "Setting a positive precedent and continuing follow up and evaluation (such as this questionnaire)."

◗ "For the women involved. I believe the significance would be greater if more women knew about the achievement, particularly technical women who could use the statistics in their own submissions and communications."

◗ "At events such as the Women's Watch meeting (New York, June '96) or the Society for International Development (SID) UNESCO Women and Cyberspace workshop (Santiago de Compostela), where a significant number of those invited have participated in various ways in the Women's Programme, it has been clearly demonstrated that the APC women's programme is one of the most (probably the most) dynamic experiences in the field of women and electronic networking."

◗ "In many ways, it (APCWNSP) is the only support programme of its kind I know of that continues to support the work being done by women in a consistent manner for a long period of time."

◗ "Strengthening, opening mind to political issues and analysis."

◗ "As said before, the team was excellent, very close, most got a lot from it despite the hard work, and there is now a team of ICT-advocating women to support one another around the world. Just being stable and having such good Internet access and allowing people to keep in touch with home, disseminate info, and organise, were very significant (outcomes). There was a very good chance the whole set-up would never happen, have the infrastructure it needed to operate, continue to [be allowed] to run, or have a room where people could actually use it. That all these were overcome is a big achievement in and of itself

and speaks to the ability of the team to overcome these and many other barriers."

◗ "E-mail will never be the same. If it weren't for the ISP built from the ground up in China, we would have been at the mercy of the media and the government. Plus e-mail cut through all the bad information that was circulating before the conference — many more women were able to get good information, cut through the red tape and attend."

◗ "The participants and delegates to the conferences were able to communicate with their bases, the media sent out news cheaply and there was unparalleled global coverage on the conference at least in Zambia."

Three respondents felt the activities and outcomes of the women's communication project were only moderately significant, while two felt they were insignificant as these comments illustrate:

◗ "I guess it helped some women. I do not think it changed anything for women working in this area and being not involved with computers at all."

◗ "We have to see what impact this will have in the work and needs of women in remote areas."

◗ "Insignificant on a macro level in terms of its impact [on] women on a global level, or even significantly on a national level. There is still much work to do. "

Women Continue to Work in ICT

From freelance journalist, interpreter or computer communications consultant to APC or NGO staff, 'Unix techie,' or gender and ICT specialist, the respondents to the survey continue to work in the ICT field. The majority (16) are using the knowledge and skills they developed through their association with the APC Women's Programme. For example, as

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an online issue leader for a major global conference, a trainer of women in the South to use Internet tools and software, a facilitator of an Asia women on-line forum or a promoter of the use of the Internet by AFRO member states. Most (16) of the respondents continue to work closely with an APC member or partner network, while six have lost contact or severed relations for personal or other reasons.

Overwhelmingly, respondents to the survey (21) see themselves active in the area of electronic communications in the next five years, particularly in activities that support women's electronic networking.

Additional Needs

What do women need to be able to carry out their work and to position themselves for the future? The respondents were quite specific:

◗ *Training*:

"In using Internet tools and HTML."

"Hands on training to be more current with ICT."

"Gender training and ICT policy training."

"Good training materials."

"More training on WIN NT & Novel 4.1."

◗ *Technical skills*:

"Relating to computers and software."

"Database skills."

"Some programming."

"I need more technical skills and understanding — how networks are structured and work, etc. I have a basic understanding of this but would like to know, in more detail, how it all hangs together."

"A better knowledge of Web page development."

"Additional knowledge of wireless technologies for rural access."

◗ *Access and equipment*:

"Full Internet access! (Imminent I hope.)"

"Better equipment."

"I need Gluk improving its capacity."

"I need 10 computers and modems to start making our network alive."

"A personal laptop to enable me to communicate even away from the office."

"Good technical equipment."

◗ *Information and discussion around ICTs*:

"Permanent updating and debate on where this field is going."

"Mostly just need to keep keeping up to date; I'm not a 'techie' so I just need to know what 'the users' are using."

"Staying up to date on new technical developments would be helpful."

◗ *ICT policies, lobbying and advocacy for women*: "More input and exchange on policy issues and a collective space through which to lobby for these issues."

◗ *Funding*: " … which would manifest in various Web or CD-ROM projects as collaborations with local women and women's organisations." " … to support developmental work."

◗ *Professional development*:

"Presentation skills."

"Project management capability."

◗ *Understanding of alternative paradigms and methodologies*:

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"I think more than anything I need help in changing my paradigms! I've no real clue of what is to come, what this technology means for Mexico or society or women, and would like to explore that more."

"I would like (an) alternative methodology for doing training and promotion, for women and users in general."

◗ *ICT women's network*: "A network of women's colleagues in this area, to be able to dream together and support each other and get work done."

◗ *Sources of resources*: "I need lists of WWW resources on different issues."

◗ *Time*: "Mainly I need more time."

APC Women's Programme: Supporting Women in ICT

When asked how specifically the APC Women's Programme could support women in their efforts in the next five years, a range of ideas, inspirations and concrete examples were offered, the most common of which are:

◗ *Mentoring and support*:

"By continuing it's mentoring role."

"As a support network — morally, technically and idea wise… there is nothing like a good dose of women's voices in cyberspace all pulling together to give one a new perspective on what you are doing in reality. In giving me new understanding of the importance of telecommunications policy and where all this technology is headed, what it will mean for women and for Mexico."

"By being in contact, sharing information, trends, experiences and discussing IT from a gender perspective." "Be there to sup-

port women such as me who do not work for an APC network and who work without colleagues."

"By being a place where information, sharing, strategy development, and planning for practical global women's networking takes place."

"Providing a space for mutual exchange and training. Providing a support network through which the regional and international women's organisations we work with can find the necessary support for developing their own networks."

"Keep being a strong programme, continuing the team feeling so everyone feels included rather than alienated."

◗ *Guidelines and models*:

"Having clear information about what is available as support and funding and what is expected from local women."

"Offering me guidelines and initiatives (examples) of what I could do with my local programme in Mexico."

"Keep providing a model for programme structure that the rest of APC can continue to draw from."

◗ *Feedback*: "Giving me any negative (or positive) feedback… so I have some idea of what is required of me and [possible] improvements I could make."

◗ *Internships*: "A year in some country that still needs a lot of development in the Internet field — to learn how to work with the people and start something new. To learn how to adapt technology and how to work with technology that is not state-of-the-art."

◗ *Funding*: "Provide funding for local projects."

◗ *Involvement in project activities*:

"Help me by [being involved] in new regional projects."

> "I am keen to work on any APC women's project which involves web development or pulling together information for a regular magazine-style publication."

◗ *Training*:

> "Provide training."

> "Enable me to undertake time out for actual training."

> "Organising workshop/training opportunities in gender and policy."

> "Possibly with some kind of training/workshop involving network/hardware stuff."

> "Offer me advanced training on Web page construction."

REFLECTING ON OUR COMPOSITION

Future Programming: What to Keep!

Survey respondents were very insightful regarding retaining, improving and/or changing aspects of the APC Women's Programme. Their comments highlighted the main attributes, pitfalls and challenges of the programme:

◗ "I think we are now in a new phase of the programme (in the post-Beijing era), where activities will have a more national and/or regional and/or language or interest group focus. This is because there is no longer, for the moment, a central focus for the women's movement itself, and because needs and realities vary widely from one context to another. At the global level, I think we should continue certain activities such as concerting the general orientation of the programme, producing training materials, [promoting] policy work and debate, [implementing] certain research activities, etc. Each region or inter-

est group will have to define their own priorities for activities such as information facilitation, [forging] links with the women's movement, [running] training programmes, etc. I also think it is important to have mechanisms in place for supporting international women's networks in linking up their members across regions or between countries."

<!-----------QUOTE----------->
"I consider the APC Women's Networking Support Programme to be my most vital space for personal and organisational development and growth, and the channel through which I will be able to do my most important work."
<!---------ENDQUOTE--------->

◗ "Retain the participatory and consultative style and collective structure. Retain the 'outward' focus. Improve our ability to cooperate with other networking initiatives in this area. Improve our organisational capacity and coordination. Improve our sharing of information with APC members and partners. Improve our capacity to share skills and train members of the programme. I don't think there is anything I would like to see changed fundamentally, possibly refocus on linking with women's movements."

◗ "I think that all that has to do with team work has to be retained and improved. I think that the programme has created a democratic environment for discussion that shouldn't be lost."

◗ "Regional workshops and support should broaden to include the Arab region and resources should be allocated to it in the same way that they are allocated to other areas of the world."

◗ "Paid full-time coordinator."

◗ "Beijing 40+ face-to-face meeting."

◗ "Retain the name (APC Women's Networking Support Programme). We are not a women's programme but a women's NETWORKING support programme!"

◗ "We need to grow and have more women doing what we are all doing, in more places. We need to keep information flowing freely, via listservs or majordomos, and not make women's information exclusive to APC."

◗ "Fundraising should be improved (more money for meetings and everyone should be paid properly)."

◗ "(The programme) needs more formal planning and coordination and needs to define what it's going to focus on."

◗ "It would be better for the APC Women's Programme to look for new people in nodes who could be part of the programme. It is important to catch the experience from women who worked in APC, but also from new people."

Perceptions on Decision Making

Perceptions on how decision making is carried out in the APC Women's Programme range from democratic process to "a central powerful group." The varying viewpoints offer constructive criticism and valuable insights which encourage reflection and change at the organisational level, as these comments illustrate:

◗ "Decision(s) are in essence made by those who feel themselves to be involved in the coordination level of the programme. Unfortunately, the coordination of the programme is quite confusing. But, I do think that everyone feels empowered to participate in discussions and decisions made by the programme. The question then is whether everyone feels themselves to be involved in the coordination of the programme or at least in some aspect of it."

◗ "It is not clear to me who makes the decisions, who is responsible, etc. For example, when there is a conference… who decides who will go? Who will get the trip funded, etc."

◗ "I think that decision making is done quite democratically."

◗ "The programme should continue to have an overall coordinator with regional contacts responsible for developing and building consensus at regional and sub-regional levels."

◗ "Those who feel responsible and have interest, [those who]are capable and are used to acts of intervention, [those who] get information sooner than later and exercise personal ability and adequate communication based on technology skills, become the decision makers."

◗ "I can read opinions from few women in the Women's Programme conferences. Maybe not all women are informed or maybe they don't want to participate [because] it is difficult for them to express through conferences. So, decision making could be not totally democratic as it could be. Regional programmes could help women to express better [because] there will not be language barriers and maybe those women in the same region know each other."

◗ "By a central powerful group who gather information and then decide."

◗ "Very consultative with lots of group input."

◗ "I think there are definitely initiators and side discussions, but I do think the weight of the group sentiment is the predominating factor."

◗ "I don't know how many participating in apc.wcw are not participating or just in the 'silence is agreement' mode."

◗ "There should be an advisory council, a coordinator, and regional representatives chosen by the regions."

Regions Should Play a Larger Role

The respondents felt strongly that regional programmes and/or contacts, and individual women working on specific activities such as training, research or advocacy, should play a more prominent role in the organisational structure and decision making process of the APC Women's Programme.

◗　 "They should play a larger role (if possible) in shaping the women's programme and ensuring that all regions have a part to play in decision making."

◗　 "Women in those positions should be responsible for leading the programme activities at those levels (either geographically or by theme) in consultation with each other. By leading, I mean leading discussions about programme activities, initiating fundraising or liasing with designated fundraisers and being accountable to stakeholders."

◗　 "I think that regional programmes will play a very significant role in defining the global programme and vice versa. Programme growth will definitely occur at the regional level more than anywhere else, as there are more uniting issues at the regional level (look at the advances in the Africa programme, for example, or what the possibility of working in Spanish and not English means for the Latin American region)."

◗　 "(Regional programmes will play) an important role [because] the APC Women's Programme must take all the experiences from one region to others and apply successful experiences or improve those that were without success... regional programmes will eliminate language barriers and will permit to share experiences with similar technology levels. Women of the same region will identify [with each other] better than with distant regions."

Criteria for Participation

Most survey respondents (15) felt that the APC Women's Programme should have a set of criteria for women participating in activities and decision-making bodies. As the majority of responses suggest, this criterion does not need to be formalised and already exists in many cases:

◗ "Working for social change should be the ultimate criteria (before working for the sake of technology)."

◗ "Technical ability and commitment to the principles of cyber-feminism (especially mentoring other women)."

◗ "The criteria should be based on people's interest and passion for the issues, but not necessarily on personal connectivity."

◗ "I think the programme has already its criteria. I've never seen it in black and white, but in the conferences I participate in I find that the women who are taking part are really committed to the programme, as technicians, policy makers, user support or information people, etc. I feel that women who show commitment to the programme should be included."

◗ "It is difficult enough to do work in this fashion. It will become even more difficult and overwhelming if we constantly need to level off and explain ourselves to one another. The fundamental criteria are shared vision, valuing of skills, helpful and supporting disposition, and actual undertaking of work."

One respondent emphasised that for participants to feel part of a community like the APC Women's Programme and feel supported by other women in the programme, they need clear responsibilities. She suggested every participant should sign a simple but binding contract explaining the benefits and responsibilities to programme participation.

Another woman felt a criteria to participate was "too harsh but something which tied participants to doing certain tasks or performing a particular role would be useful to ensure that women continue to participate and be involved."

Another respondent suggested "some sort of mission statement and guidelines which would need to be drawn up by a committee, discussed and approved by the existing group, probably consulted with APC and then applied."

Improving the APC Women's Programme

Opinions varied about how to improve the decision making process and/or organisational structure of the APC Women's Programme opinions. The suggestions range from simple ideas or statements, to detailed plans of action.

◗ "Have regional coordinators or focal points [play] a bigger part and [form] an advisory board of some kind."

◗ "Establish a coordinating body composed of regional and sub-regional representatives and [form] national chapters of the APC."

◗ "If the organisation of APC Women's Programme would be by regions or by small groups (it could be not only for regions) it will be easier to organise and design projects to work. The coordination in a big group is difficult and it is most possible that only few women [will] talk and the rest [will] just listen."

◗ "I don't think that the programme should have a heavy structure. It is good to have key people identified so that we know [who] we should contact if we need to do so. As for the decision making process, I think that the conferences for APC people work well. Though I don't take direct part in many of the activities discussed there, I can feel included in the different processes."

◗ "I think this should be kept as simple and participatory as possible, but the present situation is not adequate. The programme needs some kind of operational unit (probably at least one paid person, or paid people by region) to take care of administrative tasks. The regions and interest groups need to define their own decision making process. Some kind of central decision making should be created, probably with regional representation, to define strategy and take important urgent decisions. A broad consultative mechanism should be maintained but we

should try not to overwhelm this space with day-to-day trivia. I also think [periodic] online meetings are useful, with a clear agenda, timeframe and facilitation. And of course, face-to-face meetings can be very valuable, [when] possible, especially for discussing the deeper and more complex issues. I see the interim mechanism proposed in apc.wcw as a good start to finding a more permanent solution."

◗ "Define the responsibilities of the coordinator … and regional coordinators. Determine whether the work will be funded or volunteer. Figure out where the funding will come from. Determine what decisions the coordinator is responsible for and which the group as a whole must make. Set up a posting requirement, timeline, a facilitator of decisions, voting or agreement mechanism for [making] group decisions online. For example, post a topic in apc.wcw with a clear heading that a decision is needed. Set two weeks timeline for responses. State the issue and [emphasise] that discussion is needed. Summarise and facilitate the discussion. When the discussion is near complete, call for a vote or agreement. Post outcome of the vote. Solicit names of people interested in each position. Have the women's programme participants elect who they want in each position. Determine whether the women's programme decisions are made by consensus with fallback vote, majority, etc. Determine who is responsible for making their voice heard. A committee? Everyone who reads apc.wcw?"

◗ "Paid staff, under contract, will lead to greater accountability of the staff. The Women's Programme can not expand properly when most of its activities are [run by] volunteers who do not always feel committed to their responsibilities — also for reasons of work overload, not enough support from the volunteer coordinator, etc."

◗ "I am in agreement with having a smaller coordinating body for the APC Women's Networking Support Programme, but I think fundamental to that process is transparency, input chan-

<!----------QUOTE----------->
"The Women's Programme has great potential. In my opinion, past and present experiences, progress, and achievements can only be preserved with a clear plan for the next years. This plan should be embedded in a new Women's Programme Mission of Purpose. The plan should cover the coming 5 years (1998-2003)."
<!---------ENDQUOTE--------->

nels, and being able to have access to such a body, influence it, etc. Or perhaps a smaller body should respond to a larger, more authoritative body of the general assembly of apc.wcw."

Autonomy and the APC

When asked whether the APC Women's Programme should operate independently or be part of the APC, responses supported an autonomous programme with strong ties to the APC, as these comments suggest:

◗   "Operate independently but with the support of the APC. I do not think the APC Board has the right to make decisions about the women's programme. The programme should maintain strong ties with the APC but feel able to work with those who are not part of the APC, to make sure that the programme is truly for women on a global scale — wherever [the women] are, whatever ISP they use, etc. Of course the women who have participated and were on the team during WCW mainly came from APC networks and this should not be overlooked, but we do need to make links with those outside of the APC to ensure that the programme continues to be a success."

◗   "I think [the programme] should be part [of APC], because separation of the women's programme will make both itself and the APC weaker."

◗   "This is complex. It should certainly be autonomous operationally. I think it is to APC's advantage to keep the women's programme within its overall structure, as a pilot experience in which new kinds of partnerships can be developed. But it is important for APC to understand the autonomous character of the programme and respect its decision-making processes. This would obviously require consensus on the mission statement and guidelines."

◗ "The women's programme can be a resource and an advocacy group within the APC which is the praxis field itself. The APC can provide an institutional base that is likewise open to being transformed by the women's programme."

◗ "Separating the women's programme would seem to remove it from its main support and infrastructure."

A few exceptions were voiced. As one woman wrote: "As much as possible, independently. Because the programme should not be dragged into bureaucracy and/or a situation where people at the APC level have no understanding of the work we are doing."

Part IV:
Conclusions
and Recommendations

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General Conclusions and Discussion

'Users' and 'Workers': A Comparison of Needs

Recommendations and Action

In September 1995, a team of 43 women (and four volunteer men) representing the APC Women's Networking Support Programme provided communication services and support to over 30,000 women attending the United Nations Fourth World Conference on Women and NGO Forum in China. The Women Working in Information and Communication Technology (WWICT) study explores the team's experiences working on the physical communications set-up in Beijing. Twenty-four responses from 15 countries were received representing women working in various of ICT: technical support, user support, training, policy work, information facilitation, etc.

The study reveals that the Beijing communications project was a useful and empowering experience for those who participated. The experience resulted in the acquisition of new skills and talents and increased job opportunities in the ICT field, as well as increased capability in information management and policy advocacy.

Working within a women-led, women-defined programme , where mentoring and women-to-women training were key elements, proved critical to the project's success. The study indicates the many challenges women face in adjusting to the demands of new technologies. While acknowledging the increased job opportunities brought about by ICT, the respondents also pointed out that it brought new tensions to their personal and employment lives.

Most of the respondents recognised that an important outcome of the project is the existence of a highly skilled team of women that can support computer-networking initiatives around the world.

GENERAL CONCLUSIONS AND DISCUSSION

A More Equitable, Highly Skilled Network

The results of the survey suggest the emergence of an equitable global women's network, as well as a pool of local expertise in computer networking technologies. The team of highly skilled and experienced women who worked in the APC Women's Programme's communications project in Beijing can potentially support computer communication projects around the world, enabling women and their organisations to effectively work towards social change. Collectively, the team members' skills range from moderating and maintaining information management systems to configuring and running Unix servers and their software; from running information advocacy campaigns to developing tools for e-mail retrieval.

Common Needs Met

At the start of the project, the respondents' commonly felt needs involved technical, information facilitation and networking skills.

Women in the South expressed a common need to learn Internet software and tools. Most of them, prior to Beijing, had only remote access to the Internet. This confirms the consensus in the literature that it is vital that women in the South participate in the new communication processes to counter their marginalisation due to inadequate infrastructure and high cost of communication.

The fact that a number of women felt networking with other women working in ICTs was an unanticipated need supports Riano's position that the international exchange of experiences is vital to counteract the pitfalls of the new technologies.

These needs, most respondents said, had been met through their involvement in the Beijing communications project indicating an important project achievement.

Constraints and Opportunities

Time was the biggest constraint working against women who participated in the project. Other constraints identified include language barriers, inadequate technical skills and absence of clear guidelines for participating in the programme.

Important opportunities for women working in ICT include mentoring and access to information and technologies, as well as support from node, boss and/or colleagues, and the 'women-led, women-defined ' model. Policies, on the other hand, ranked lowest among the opportunities afforded women in this study.

The constraints and opportunities identified by the respondents highlight some critical elements in the project's design and implementation.

Impacts and Realities

Working in the APC women's communication project had useful and empowering effects on women's personal, professional and civic lives. The impact of the experience allowed them to communicate in new ways, to build their capacities in ICT, to redirect energies to the online feminist community, to grasp broader issues and problems of women's global networking, to expose women to technology in women-friendly manner, and to illustrate the potential of global collaboration and communication.

The respondents had to link their day-to-day work with their participation in the activities of the APC Women's Programme. The respondents employed a number of creative strategies to help them carry out their dual tasks. These strategies included promoting the technology to women's groups in their respective communities, accessing important documents and making these available to groups organising around Beijing, raising 'technophobe' issues, and offering examples of women technicians and best use practices among others.

The respondents recognised that the reality of negotiating between their day-to-day work and their involvement in the APC Women's Programme had both rewards (experience, learning, contacts) and repercussions (long work hours, family conflicts, unrealistic expectations, intra-office jealousies).

Taken together, such impacts and realities validate women as diverse subjects with different experiences — "as subjects of struggles, as partners of communication, as mothers, as workers, as activists, as citizens" (Riano, p. xi).

Applying Technology: Limitations

Tool usage patterns point to the limitations imposed by external factors such as poor infrastructure or lack of access to equipment due to the geographic location and degree of connectivity of participants. Newer technologies are still many years away for colleagues in Africa, Asia and rural areas of countries all over the world. Such limitations, however, did not deter the respondents.

Women used mostly e-mail and conferencing tools in their communications on the project. Their applications of the technology illustrate the use and effectiveness of computer communications to running a global women's project, and contributed to the fashioning of a more outwardly focused style of working. For example, communicating purely via e-mail allowed women to form new relationships with other women's networks like the International Women's Tribune Centre or Women's International League for Peace.

Costs Can Outweigh Benefits

Women's lives can be complicated by their exposure to ICTs. The respondents raised the concern that women's employment benefits from the new technologies can be outweighed by the associated costs.

Specific examples cited in the findings include: increased demands on time due to the very nature and speed of ICTs, information overload, increased demands of participating in multiple networks, technical problems, and occupational hazards. The findings support the consensus in the literature that suggests technological changes affect both the quality and quantity of women's work, as well as bring new tensions to women's domestic lives.

Issues of Gender and Exclusivity Exist

Issues of gender and exclusivity arose as a result of women working on the Beijing communications project. Some male members of APC, for instance felt alienated from the women-led, women-defined programme. Among the women respondents, there were those who found themselves in situations where men felt women could not train or they were offered inappropriate technical advice by male technicians. Others experienced harassment. Some of the women had to prioritise some women's groups over others. There were also those who felt excluded from important decisions in the programme. These issues draw attention to the many challenges associated with implementing a women-led global initiative.

Women-Led, Women-Defined Model

Respondents felt their experience working with a group of women on a computer communications project was very significant. The findings suggest such approaches can encourage mutual support and mentoring, and can help counteract the monopolisation of men working in ICT.

Achievements and Shortcomings

Project achievements were many and varied:

◗   delivering professional services and support;

◗   empowering women to use technology;

◗   far reaching long-term networking benefits;

◗   broadening global participation;

◗   strengthening women's ICT capacity;

◗   contributing to ICT policy and lobbying efforts at the UN;

◗   facilitating information exchange around the WCW;

◗   fulfilling aims and goals; and

◗   successful team work.

Shortcomings of the project include:

◗   skewed regional representation;

◗   some individual needs unfulfilled;

◗   hazards to women's health;

◗   poor communication flow;

◗   poor planning and coordination;

◗   lack of resources;

◗   limited control over external forces; and

◗   language barriers.

Another shortcoming of the programme might be its inability to engage more from the youth sector in its activities. The response from

the childcare worker on the team showed how working closely with women on the communications project was influential in shaping her career path when she returned to the United States.

Many of the shortcomings point to problems associated with running a global women's programme with limited resources.

Individual Women:
Most Significant Project Influence

'Individual women' rank highest among project influences. This is followed by 'specific women's groups,' 'women working in the field of computer communications,' 'activities and outcomes of the WCW and NGO Forum,' and 'regional and/or other preparatory WCW activities'. Specific examples of project influences include:

- ❿ demonstrating first-hand the possibilities of the new technologies to women;

- ❿ opening communication channels for women globally;

- ❿ inspiring other women to adopt the technology;

- ❿ lobbying successfully for a new strategic objective in Platform for Action;

- ❿ furthering women's careers in ICT field;

- ❿ modeling to other women that this technology was appropriate for and could be maintained by women;

- ❿ pioneering in preparing women for a new way of networking;

- ❿ increasing contacts between women from different cultures, races and countries

- ❿ demonstrating one of the most dynamic experiences in the field of women and electronic networking;

◗ opening minds to political issues and analysis relating to gender and ICT; and

◗ overcoming many barriers.

Combined, these perceived influences serve as real life examples of the importance of rooting women's communication experiences and ways of communicating in their social and cultural concerns and backgrounds, and defining communication enterprises as larger movements seeking change. These findings also correspond with observations in the literature about how alternative communication channels are successful in articulating other visions of women and challenging the stereotypical portrayal of women in ICT. (Riano).

Working Women's Needs

The majority of women who participated in the survey continue to work and apply the knowledge and skills they developed through the project. Yet, not all work closely with an APC member or partner network, suggesting perhaps a shortcoming on the part of the programme. All respondents could see themselves continuing to be active in women's electronic networking in the next five years, demonstrating a long-term commitment to the field.

To be able to face the challenges of the future, the respondents felt that they need to have more training, gain more technical skills, have access to the necessary infrastructure and equipment as well as information and discussion around ICTs. They also felt it important to be able to participate in lobbying and advocacy for women, and to gain understanding of alternative paradigms and methodologies. The formation of a global women's network supporting women working in the ICT field was also considered important. Time, or having more time, was a commonly perceived need.

Notably, some of the above needs (training, technical skills, access and equipment, and funding) correspond with the common needs cited by women coming into the project. This correlation indicates the

realities of working in ICT. Rapid changes in technology require women to continuously learn new skills and increase their capacity to adapt to such technological changes. Other anticipated needs suggest personal and professional growth and empowerment, as well as participation in a growing movement to effect social change.

Observations on the APC Women's Programme

The APC Women's Programme stand to gain from the insights and suggestions of the respondents regarding processes and activities of the programme. According to the respondents, the APC Women's Programme should retain its participatory and consultative style of working, its 'outward' focus, its teamwork, and its democratic environment.

The respondents also pointed out that the programme needs to look closely, and to make improvements accordingly, into the following areas: collaborations with other electronic networking initiatives, organisational capacity, programme coordination, sharing of information and skills, and training. The programme, according to the respondents, also needs to broaden regional participation, work harder to reach out to underrepresented or unrepresented regions such as the Arab region, pay a full-time coordinator, and engage new people.

At first glance, the respondents' perceptions on decision making processes within the APC Women's Programme would seem to be extremely divergent. Some expressed uncertainty over who makes decisions, while others attributed decision making to "a central powerful group." A majority, however, recognized the existence of a democratic and consultative process within the programme.

Nevertheless, there was a common suggestion that regional programmes and/or contacts should play a larger role in shaping the women's programme. It was also suggested that the APC Women's Programme should develop a set of criteria for women participating in its activities and decision-making bodies. Interestingly, the respon-

dents pointed out the criteria do not need to be formalised,and that in many cases may already be operational.

Suggestions for improving the decision-making process and/or organisational structure of the APC Women's Programme vary. Many suggested having regional focal points play a bigger role or forming national chapters, coming up with concrete plans of action outlining new organisational structures and relationships, and defining key tasks and responsibilities.

There was concensus that the APC Women's Programme should continue to operate autonomously from, yet retain strong ties with the APC.

These perceptions of decision making process and organisational structure of the APC Women's Programme offer constructive criticism and valuable insight for reflection and should inform changes that will be undertaken at the organisational level.

'USERS' AND 'WORKERS': A COMPARISON OF NEEDS

As stated previously, the first research undertaken by the APC Women's Programme dealt with experiences of women as 'end-users' of ICT. This second research study focused on women's experiences as 'workers' in the ICT field. Significantly, there is a commonality in the needs expressed by the subjects of both studies. Whether as 'users' or as 'workers,' women engaged in ICT share many common needs, as these two studies show. However such common needs would appear to still have distinctions stemming from the specific practice or engagement with ICT of each group.

◗ *Training and technical expertise*. Access to training and gaining technical expertise were commonly expressed by both groups in the two studies. Women who are mainly 'users' said they need training to get connected and to use basic tools such as e-mail, conferencing and the Internet. On the other hand, women

who worked on the Beijing communications project said they needed more expertise in such areas as programming, development of appropriate tools, system maintenance, troubleshooting, etc. A correlation can also be made between expressed needs in training and technical expertise on one hand and geographic location and the degree of connectivity of the women on the other hand. For instance, women from the South where access to the Internet is a big challenge were more likely to identify the need to learn Internet software and tools than women from the North. Interestingly, both 'users' and 'workers,' whether from the South or the North were unequivocal about the value of having access to women-centred training.

◗ *Mentoring and support*. In both studies, the women said it was important for them to have access to support groups and mentors who can help them.

◗ *Access and equipment.* Common to both groups in the two studies is the need to have access to the Internet and to hardware and software to support communications. Both 'user' and 'workers' have to contend with the same limitations in access and infrastructure: not having access to remote databases or Internet tools, difficulty in getting a phone line, and high costs of data transmission.

◗ *Global Network.* A network of women that will support each other and other women's networking initiatives. The existence of such a network is very important for both 'users' and 'workers.'

◗ *Time*. As ICT 'users' or as 'workers,' women felt they needed more time to be able to cope with balancing day-to-day work with increased workloads associated with the adoption and use of ICT.

◗ *Policy and advocacy*. Women in both studies said that there is a great need to do more policy and advocacy to support women and electronic communications and networking. Particularly in

the first study, respondents point to an agency's commitment to information technology and the opinion of women in senior positions within organisations as factors that contribute to a woman's ease and access to electronic networking. For women in the second study, the important ingredients are: support from node, boss and/or colleague; clear policies regarding decision making, accountability, and responsibility within the APC Women's Programme; access to information and discussion around ICTs; and having spaces for women to be able to actively lobby changes in the ICT field and in society as a whole.

◗ *Funding.* Another shared concern by 'users' and 'workers' is the lack of viable funding support for their projects and programmes.

◗ *Women-led, Women-defined Approaches*. Finally, whether as 'users' or as 'workers,' women wanted to see more approaches that encourage mutual support, mentoring, and women-to-women training.

RECOMMENDATIONS AND ACTION

The recommendations of this second study have been loosely grouped into six categories based on the global framework forged during the face-to-face meeting of the APC Women's Programme in Quito, in October 1997. These categories are: Policy and Advocacy, Information, Regional Support, Training, Research and Evaluation, and Administrative Services.

Recommendations for Policy and Advocacy

◗ Continue ICT policy and lobbying efforts at the UN and other global forums.

◗ Lobby governments to have women's access to ICT and issues

related to employment in the ICT field recognised and addressed at the local, regional and international levels.

◗ Lobby APC members and partners to increase women's entry into fields of new technology.

◗ Lobby institutions to increase women's access and involvement in areas related to technology, including decision-making and programme development.

Recommendations for Information Work

◗ Establish an international clearinghouse of information and support for women as 'users' and 'workers' in ICT.

◗ Document women's achievements and pioneering work in various areas of ICT to provide models and inspiration to those new to the field and to record what has been accomplished.

◗ Share guidelines and models that have been developed.

Recommendations for Regional Support

◗ Support regional women into leadership roles to affect decision-making about where and what kind of technology is introduced.

◗ Establish a forum to discuss some of the rewards and negative repercussions that come with working in on-line environments.

◗ Determine ways to support and/or involve more women in programme activities.

◗ Implement outreach to women who have lost touch with the programme.

◗ Ensure that all regions have a part to play in the decision making of the global programme.

◗ Offer constructive feedback to the regions.

◗ Formalise a network of mentors and technically skilled women to support regional and local needs.

◗ Offer communication support at international events, and 'getting word out' about women's global networking.

◗ Consider having regional focal points play a bigger role in the decision making process and/or organisational structure of the APC Women's Programme.

◗ Consider forming national chapters of the programme.

◗ Encourage and support local and regional programme initiatives.

◗ Focus regional support efforts on women in the South.

◗ Use the roster of 'specialists' to identify women who can support some of the needs identified in the study. For example, source 'specialists' to conduct training geared to regional or global gatherings, or to undertake lobbying work on behalf of the APC Women's Programme.

Recommendations for Training

◗ Train women to become informed and skilled ICT 'workers.'

◗ Develop resources and training to help women to bridge gaps between old and new technologies and applications.

◗ Collect stories and share these and other information to help women advance in the field of ICT.

◗ Increase women's capacity to be critical users and workers who can provide input into the design of technologies, programmes and software.

◗ Organise internships.

◗ Assist women to assess their need for technology and the impact of technology on their lives and employment.

Recommendations for Research and Evaluation

◗ Consider further research and evaluation around the "women-led, women-defined model" to determine its real impact and importance.

◗ Popularise alternative paradigms and methodologies to support women working with ICT.

Recommendations for Administrative Services: Coordination, Fundraising and Promotions

◗ Set up and maintain the roster of women and electronic communications 'specialists' as a database for the design, development and implementation of specific projects undertaken by the APC Women's Programme.

◗ Share this databank with other organisations seeking expertise in ICT.

◗ Consider ways to engage young women in programme activities.

◗ Consider the study participants' constructive criticism and valuable insights on decision making when affecting changes in the APC Women's Programme's organisation.

◗ Outline new organisational structures and relationships and define key tasks and responsibilities.

◗ Consider developing a set of criteria for participants in programme activities and decision-making bodies. The criteria need not be formal.

◗ Fundraise.

Where Do We Go From Here?

The APC Women's Programme is a leader in both its support to women's global networking and its cadre of women working in ICTs.

The women who delivered the information and communication services and support in Huairou and Beijing during the Fourth UN World Conference on Women are a real source of strength for the APC Women's Programme. They should be supported and mobilised for project activities.

This document concludes with a final recommendation to the APC Women's Programme: Review and assess the findings and conclusions from the two studies, and use these to set forth a women's agenda that will guide strategising and planning to support women — be they 'users' or 'experts' in information and communications technology.

Appendices
Appendix 1: Cover Letter

COVER LETTER

May 26, 1997

Dear colleagues:

The APC Women's Programme is working on a second research initiative that will explore in more depth women's relationship to and experience of working with information and communication technologies (ICTs).

To assist us in this process we've designed a questionnaire to gather feedback from women who worked on APC communication activities around the United Nations World Conference on Women (UNWCW) in Beijing including:

- the team of 40 women offering communication support in Beijing

- the Beijing information team based in London and the remote information teams based in Nairobi and Lusaka

- the coordinating team plus node (or other) representatives to the women's programme

- the women linked to Beijing activities through specific node work or other work (e.g., Melbourne Online Beijing; regional preparatory meetings; training activities in India, Francophone West Africa, and South Africa; regional programmes in Latin America and East Europe; and country programmes at our sister APC networks includings WomensNet at IGC (US), WomensWeb/Canadian Women's Net-

working Support Programme at Web Networks (Canada), WomenzNet at Pegasus (Australia)

- the women who cooperated, participated and contributed to enhancing the programme's networking, promotion of training, and research while in Beijing.

Our overall objectives with this study are:

(1) to share our experiences in order to strengthen alliances among women, like yourself, who believe in social change and race/class/gender parity, as well as work and advocate in the field of information and communication technologies;

(2) to capture and share the lessons learned from our experiences to inform longer term programming and provide support where needed;

(3) to develop profiles of women as role models and/or leaders in information and communication technologies and decision-making, in order to inform mainstream views of this field; and,

(4) to encourage women's work and advocacy endeavors in this important area.

The survey is organized in 3 sections. Section 1 asks for personal information about your skills and experiences using information and communication technologies. Section 2 is specific to your experience working on the APC communications project in Beijing while Section 3 invites feedback on the APC Women's Programme in general.

We know for some of you, your participation in the APC Women's Programme is more limited than for others, but we ask that you try to respond to as many questions as possible based on your familiarity with the programme.

Also, while filling out the survey, please keep in mind

that the researchers working on this project will aggregate
the responses so that no identifying information will appear
in the final report to the APC Women's Programme. This final
report will be shared with all participants of the survey.

We ask that you return the completed survey by E-mail to
women95@web.apc.org by June 6, 1997 and thank you once again
for your kind cooperation.

Yours sincerely,

Karen Banks   luchie pavia ticzon
Project Director   Research Coordinator

Gender and Information Technology Project
APC Women's Networking Support Programme

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SURVEY

Section 1: IDENTIFYING OURSELVES AND PROMOTING OUR SKILLS

Name:
Address:
Country:
E-mail:
Nationality:
Languages:

Please describe your experiences and skills that are specific to information and communication technologies (e.g., training, support, information facilitation and management, technical document development, technical installation and/or management, etc.):

Is there any further information you'd like to share with us that is relevant to your work and experience in this field?

_____ (check here) I give permission to the APC Women's Programme to use the above information to compile a roster of women and electronic communications 'specialists' available for the design, development and implementation of specific projects undertaken by the APC Women's Programme.

_____ (check here) I also give permission to the APC Women's Programme to ask me more questions or seek further inputs towards developing profiles of women in information and communication technologies.

Section 2: SHARING BEIJING EXPERIENCES

Please describe your role(s) in the APC communications project to support women's global networking around the United Nations Fourth World Conference on Women (WCW) in Beijing?

What specific knowledge and/or skills did you have coming to the project and how were these applied (or not)?

What specific needs did you have coming to the project and how were these met (or not met)?

What were some of the constraints working against you in doing your work for the APC Women's Programme? (Check all that apply.)

_____ lack of support from APC node, boss and/or colleagues

_____ policies (both internal or external)

_____ lack of knowledge and/or involvement in UNWCW happenings in your country or region

_____ language barriers

_____ distance barriers

_____ cultural barriers

_____ lack of access to information and/or technologies

_____ lack of technical skills or knowledge

_____ time constraints

_____ no clear guidelines on how to participate

_____ working within a women-only programme

_____ working in isolation

_____ poor telecommunications infrastructure

_____ others. Please explain.

Please feel free to elaborate on any of the constraints you selected.

What were some of the opportunities working with you in doing
your work for the APC Women's Programme? (Check all that
apply.)

_____ support from node, boss and/or colleagues
_____ mentoring from other women
_____ knowledge/involvement/participation in UNWCW
        happenings in your country or region
_____ policies (both internal or external)
_____ access to information and/or technologies
_____ time availability
_____ working within a women-only programme
_____ others. Please explain.

Please feel free to elaborate on any of the opportunities you
selected.

Did your experience working on the APC women's communications
project have an impact on...

... your personal life? Yes _____ No _____
... your work? Yes _____ No _____
... your community? Yes _____ No _____

In what way?
Please share at least one example of how you linked your work
on the APC women's communications project to your day-to-day
work.

How did you use, apply or work with information and communi-
cation technologies in the lead-up to APC women's communica-
tions activities in Beijing?

Did you form new groups or start to communicate in new ways
with the women in this programme or with other women working
on Beijing-related issues?

Yes _____ No _____ Please explain and give examples.

Please share at least one example of how your life and work was empowered by your exposure to information and communication technologies and the APC women's communications project.

Please share at least one example of how your life and work was further complicated by your exposure to information and communication technologies and the APC women's communications project.

Did any issues of gender arise as a result of your participation in the project (e.g., stereotyping; issues of power, control and identity, the different ways women and men communicate, the different value systems men and women often subscribe to, sexual harassment, etc.)?

_____ Yes. If yes, please explain.
_____ No.

Did any issues of exclusivity arise as a result of your participation in the project (e.g., excluding some people from important decisions or actions, catering only to certain groups, individuals or opinions, etc.)?

_____ Yes. If yes, please explain.
_____ No.

Overall, would you say your experience working with a group of women on a computer communications project was (check one):

_____ insignificant
_____ moderately significant
_____ very significant

In what way?

Please identify at least one achievement and one shortcoming of the APC women's communications project.

In your opinion, did the project have an influence on (check all that apply)

_____ regional and/or other preparatory WCW activities
_____ activities or outcomes of the WCW in Beijing
_____ activities or outcomes of the NGO Forum in Beijing
_____ individual women
_____ specific women's groups
_____ women working in the computer communications field.

In what way?

Overall, would you say the activities and outcomes of the APC women's communication project were (check one):

_____ insignificant
_____ moderately significant
_____ very signficant

In what way?

What is your current work (paid and volunteer)?

Are you currently using any of the knowledge or skills you developed through your association with the APC Women's Programme?

Yes _____ No _____ Please explain.

Do you work closely with an APC member or partner network?

Yes _____ No _____ Please explain.

Are you still involved with the APC Women's Programme?

Yes _____ If yes, in what capacity?
No _____ If no, why not?

Do you see yourself working in the area of electronic communications in the next five years?

Yes _____ If yes, in what capacity?
No _____ If no, why not?

What additional electronic networking skills, tools or resources do you feel you need to help you carry out your work and position yourself for the future?

Specifically, how can the APC Women's Programme support you in your efforts in the next five years?

Section 3: REFLECTING ON THE APC WOMEN'S PROGRAMME

Based on your experiences, what aspects of the APC Women's Programme should be retained, improved and/or changed for future programming?

Describe how you perceive decision-making to be carried out in the APC Women's Programme?

What role should regional programmes and/or contacts, as well as women working on specific activities, such as training, research, or advocacy, play in the organisational structure and decision-making process of the APC Women's Programme?

Should the APC Women's Programme have a set of criteria for women participating in our activities and decision-making bodies?

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Yes _____ If yes, what should this criteria be?
No _____   Why not?

Please provide specific suggestions on how to improve the
decision-making process and/or the organisational structure
of the APC Women's Programme.

Do you think the APC Women's Programme should operate indepen-
dently or be part of the APC? Please explain?

**PLEASE ADD ANY FURTHER COMMENTS, QUESTIONS OR SUGGESTIONS
THAT YOU FEEL WERE NOT COVERED IN THIS QUESTIONNAIRE.**

Appendix 2: Members of the APCWNSP Beijing Team

1. Karen BANKS
2. Rhona O. BAUTISTA
3. Sally BURCH
4. Justina CURTIS
5. Edie FARWELL
6. Gudula FEICHTINGER
7. Jennifer GAGLIARDI
8. Serin HOUSTON
9. Maureen JAMES
10. Sarah MASTERS
11. Patricia MITCHELL
12. Marie-Helene MOTTIN-SYLLA
13. Jagdish PARIKH
14. Dafne Sabanes PLOU
15. Spider REDGOLD
16. Regina Cammy SHAKAKATA
17. Erika SMITH
18. Anna SYOMINA
19. lucia pavia TICZON (aka luchie)
20. Adam TILLER
21. Marcos VILLAS
22. Wilma M. Guerrero VILLEGAS
23. Maja van der VELDEN
24. Mercy WAMBUI
25. Scott WEIKART

Editor's Note: The information contained here are from the survey and the "release forms" signed by the participants. When ever possible the contact addresses have been updated. The participants were asked to give a short description of their skills and experiences in information and communication technology.

In most cases, the participants' own words — in quotes — were used to describe their work.

Karen BANKS

Address: GreenNet, 74-77 White Lion Street, London N1 9PF
Country: UK
E-mail: karenb@gn.apc.org
Nationality: Australian
Languages: English

"I would consider myself an 'all-round' moderately skilled technician, with a lot of experience working on a day to day level with an Internet Service Provider.

"Through working with an ISP for over six years, I have had the opportunity to be exposed to a vast range of technologies, experience, realities and situations as GreenNet has been involved with ICT projects and support to users and hosts in over 60 countries. I'm also privileged in having a good, reasonable overview and understanding of different technologies, barriers and hindrances, economic, social, political and cultural realities — as they relate to people and ICTs — in many countries around the world. Through continued work with the women's programme, I have had a good exposure to the realities of women with respect to their impact on ICTs and vice versa.

"I therefore am lucky to have experience in almost all of the above areas, though I wouldn't consider myself highly qualified in any of them.

"Having had a great deal of personal and organisational freedom at GreenNet has made a great deal of my experience possible. Political freedom and a freedom from profit-driven environment have contributed extensively in providing an environment that has offered me great opportunities. Similarly, being associated with the APC has made that experience even greater — at an international level. Being in a decision-making role at GreenNet, and with APC (as a council representative) have also further empowered me."

Rhona O. BAUTISTA

Address: 3 Marunong St., Bgy. Central, Quezon City
Country: Philippines
E-mail: rhona@isiswomen.org
Nationality: Filipino
Languages: Filipino, English

"I am responsible for managing the Isis Resource Center's Database. I designed the database using the UNESCO's CDS/ISIS software. I'm also the facilita-

tor of Asia-Women, an e-mail forum which serves as a venue for women's issues and concerns in the Asia-Pacific region. I am the coordinator of Isis-Womanhealth-E-mail Center's local e-mail training this June. In 1995, I was part of the APC 40+ women that provided access and training support to the participants in the 4th World Conference on Women in Beijing. I participated in the APC-GreenNet's E-mail Training in January 1994 in Delhi. "

Sally BURCH

Address:	CASILLA 17-12-877, QUITO
Country:	ECUADOR
E-mail:	alaidir@ecuanex.net.ec
Nationality:	British/Canadian
Languages:	English, Spanish, French

"I am a journalist. I do training in communications policy and strategy, particularly in the area of new technologies. I also write on these issues. I have experience in supporting and advising the development of networks and coordinating initiatives within social movements, as well as in developing policy proposals on these issues and on the issue of gender and communication. I also do web page development and facilitate mailing lists."

Justina CURTIS

Address:	45 Webb Street Fitzroy VIC 3065
	PO Box 1681 Collingwood VIC 3066
Country:	Australia
E-mail:	justina@toysatellite.com.au
Nationality:	Australian
Languages:	English

"I have hands-on computer/Internet/APC experience and training as a direct result of working with Andrew Garton since early 1995. Andrew Garton has been involved with Pegasus/APC since 1991. [editor's note: Pegasus was bought by a private company in Melbourne. Andrew, Justina and others who were involved in Pegasus have since then formed C2O.]

"We established a small multimedia production studio to manage our own creative projects, as well as Internet-related content publishing services for community, human rights, education and arts-based organisations. Our commissions enable us to provide a level of support to various non-funded projects.

"Overall, my work involves setting up and configuring dialup connections; providing training in use of computers and communications procedures; devel-

oping information strategies and implementing them, developing Websites; working with programmers, graphic artists, clients in web productions and developing systems for information management; providing training in basic to advanced html and ensuring that clients get to maintain ownership and control of their content.

"I also have an editorial role with an independent fortnightly mail-drop and web publication which reports and comments on progressive issues.

"I am currently receiving formal training in advanced multimedia authoring techniques using Macromedia Director, Adobe PageMaker, Photoshop, etc. I am always researching, learning and experimenting with new software and web-related languages like JavaScript, Java, LiveScript, ActiveX, etc."

Edie FARWELL

```
   Address:  APC P.O. Box 29904, San Francisco, CA  94129
   Country:  USA
    E-mail:  efarwell@apc.org
Nationality:  USA
 Languages:  English
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At the time of the survey, Edie was the executive director of APC. She lists the following as her skills and experience in ICT:
- Use of the online conferencing system for organising teams of geographically dispersed people.
- Managing teams of APC people to set up an ICT centre at UN events.
- Helping organise individuals and organisations to get ICT friendly language into UN and otherdocuments.

Gudula FEICHTINGER

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   Address:  A-1040 Wien, Favoritenstr. 60/12
   Country:  Austria
    E-mail:  gf@ping.at
Nationality:  Austrian
 Languages:  German, English, French
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Gudula considers the following as her skills: providing technical support, PC and dial-up installation, training, web consulting and design, project management, basic Unix operation.

Jennifer GAGLIARDI

        Address: 1505 Four Oaks Circle, San Jose, CA
        Country: USA
         E-mail: gagliajn@netcom.com
    Nationality: USA
    Languages: English, German

"I am a helpdesk technician in a multi-platform environment: Mac, Windows 3.1, Windows95, Windows NT, HP/MPE, HPE/Unix. I also administer our company's e-mail/Novell network & provide Internet support.

"In my spare time, I moderate five feminist e-mail list: ABIGAILS-L (feminist activist discussion list), BEIJING95-L (wcw4 & int'l feminism), CATTS-CLAWS (feminist newsletter), FAVNET (feminist against violence dv/vaw), & WOAH-HERSTORY (calendar of women's herstory).

"I also maintain a Website — http://www.geocities.com/CapitolHill/4342, as well as an ftp site."

Serin HOUSTON

        Address: P.O. Box 61, Craftsbury Common, VT 05827
        Country: USA
         E-Mail: it varies but generally — serin.houston@dartmouth.edu
    Nationality: USA
    Languages: English

"I have very minimal training in communications in terms of computers. I basically know how to do the basics and that's the help I offered to the program while in Beijing.

"I have had training for various types of counseling, and the like.

"I definitely give APC all rights to share this information but as you can see, I don't even know how to make a message be sent back all filled out on these IBM machines, so... I doubt my info will be of use to women in information and communication technologies."

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Maureen JAMES

Address:	222 Shaw Street, Toronto, Ontario M6j 2w8
Country:	Canada
E-mail:	maureen@web.net
Nationality:	Canadian
Languages:	English, a little French and Spanish

"I do a lot of Internet-related writing of a non-technical nature: e.g., funding proposals for APC and other groups, promotional material for Web Networks, sample case studies of how people are using APC Networks in their work, focus pieces on gender and information and technology issues.

"I'm quite familiar with how to prepare text for sharing online, and how to advertise and motivate people to participate in discussions. I have been working online since 1988 so I have lots of general experience just doing it and prefer it to any other form of communication for my work. I am able to work in high-tech and low-tech environments, and am very aware of both."

Maureen lists the following as her experiences and skills specific to information and communication technologies:

- Training individuals and groups on basic Internet connectivity and navigation, on any platform (text-only, Windows 3.1, Windows95, Macintosh, etc.)
- Internet project development and implementation e.g., helping a group discover what they need to go online, and how to do it
- User support — not 'highly' technical, more like helping people identify problems, at which point they may need to delve deeper with people more highly technically skilled
- Writing Web Networks user guides, and instruction sheets for particular projects and online services
- Co-authoring a group collaboration book called *Working Together Online*
- Managing mailing lists
- Facilitating online discussion
- Basic modem and software setup
- Speaking to groups about how to use ICTs in their work
- Managing new service and product development and testing, e.g., Web Networks Internet Tool Kit
- Advising on end-user software testing processes
- Managing system administration and user support staff (was Network Operations Manager at Web Networks for 2 years)

Sarah MASTERS

Address:	74-77 White Lion Street, London, N1 9PF
Country:	UK
E-mail:	sarahm@gn.apc.org
Nationality:	British
Languages:	English

"As a support/training person who can be hesitant about adopting new technologies/software, I empathise with those people/women who are hesitant about electronic networking in general. I think that this gives me valuable insight into the ways in which other women view technology and how best to allay their fears. This has been a key part of my work at GreenNet and also when participating in workshops and training as part of the Women's Program."

Sarah lists her skills as: training, providing user-upport, producing manuals/training materials, basic Website development, managing APC conferences/mailing lists at GreenNet.

Patricia MITCHELL

Address:	135 Porter Road, Heidelberg Heights 3081
Country:	Australia
E-mail:	Pat.Mitchell@latrobe.edu.au
Nationality:	Australian
Languages:	English

"I provide ongoing support for desktop computers, (Macintosh and Wintel), train staff, publish electronic documentation, web publishing and web maintenance."

Marie-Helene MOTTIN-SYLLA

Address:	ENDA-SYNFEV, B.P. 3370, Dakar
Country:	Senegal
E-mail:	mhms@enda.sn
Nationality:	French and Senegalese
Languages:	French, English, Wolof, Italian

Marie-Helene lists her skills as: networking, training, information facilitation, lobbying, planning, field action, translating and disseminating, promotion of use, and working in a low connectivity context.

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Marie-Helene is the founding coordinator of APC-Women Africa, the African regional peorgramme of APCWNSP. She is a 1999 Top 25 Women on the Web awardee (http://www.top25.org).

Dafne Sabanes PLOU

Address:　Ing Mitre 445, 1834 Temperley, Buenos Aires
Country:　Argentina
E-mail:　daphne@wamani.apc.org, daphne@ayelen.wamani.apc.org
Nationality:　Argentinian
Languages:　Spanish, English

"At present I'm working as issue leader for a conference on IT and gender issues related to the Global Knowledge conference that takes place in Toronto this month. I'm also cooperating in defining the contents and policy of a Web page for churches and ecumenical organisations in Argentina. As chairperson of the Latin American Region of WACC, I've decided to have regional committee meetings online and as chairperson of the Latin American and Caribbean News Agency, with headquarters in Lima, Peru, I promoted that the agency did all its work using computer communications (i.e.: daily bulletins in three languages, Spanish, English and Portuguese; virtual meetings, sharing of internal information, decision making, guidelines for and monitoring of stringers, etc).

"As a member of the Advisory Group on Communications of the World Council of Churches, I participated in the promotion and creation of the news agency Ecumenical News International (ENI), with headquarters in Geneva, that does all its work using computer communications."

Spider REDGOLD

Address:　PO Box 3007, 5th Brisbane, Queensland 4101
Country:　Australia
E-mail:　cyberzonne@shoalhaven.net.au
Nationality:　Dual nationality, UK and USA
Languages:　English

Spider is a veteran techie whose skills and talents include training, user support, information management, technical documentation, technical management, and web development. During the Beijing Conference, Spider was a technical staff of Pegasus in Australia.

Spider has co-developed a WIN95 application that allows stand-alone machines to become an "Internet cafe." The application was used by several com-

munity groups to allow controlled Internet access to their members using the community's group account.

Regina Cammy SHAKAKATA

    Address: WHO Zambia, Box 32346, 10101 Lusaka, Zambia
    Country: Zambia
    E-Mail: who@zamnet.zm
Nationality: Zambian
Languages: English, French

"I started using e-mail in June 1991 as medical librarian at the University of Zambia's Medical Library and as Zambia national liaison officer to the Healthnet project, a telecommunication network project for healthcare Workers. I used a Fidonet system, interfaced with front-door communication technologies. I have installed "grateful Med," a bibliographic interface to access via e-mail some databases at the National Library of Medicine. I used the system to access health information speedily and efficiently. My partner at the University of Florida's Health Sciences Library and I exchanged and shared health information. He searched and sent us print-outs of health articles upon request.

"In 1992, I had CD-ROM technology installed in the University of Zambia's Medical Library with an initial 12 CD-ROM databases. This development further increased the use of e-mail at the site to access full-text health articles.

"In 1994, I coordinated the "Communications for Better Health," a project funded by The Dreyfus Health Foundation of New York. This was an innovate project which aimed at repackaging health information retrieved from CD-ROM databases into a Digest and distributing this via the Internet.

"Later in 1994, I got full access to the Internet. This helped me put a few things into the Internet and allowed me to fully explore the technology for the benefit of my clients in the library.

"I trained my staff and did continuous training for my clients using the skills which I acquired from the technical staff at the University of Zambia's Computer centre/Zamnet. I was able to develop my own training materials in the process.

"The Zambia Asociation for Research and Development (ZARD) went online in 1992. UNAZ Computer Centre/Zamnet installed the technology and provided the initial training to ZARD. I did the follow-up training for ZARD and other women's NGOs. In May 1996, I did a regional training for women in Lusaka.

"I facilitated the setting up of AidsNet for African journalists reporting on Aids in March, 1997.

"I continue to train at the WHO office in Zabia, my new work place. My training is both gender sensitive and gender neutral.

"I have been involved with ICT work since the early 1990s. I have participated in several important and milestone meetings regarding the development of ICTs in Africa, starting with low-orbit Satellites to e-mail and full Internet. In Zambia, I served on the Healthnet planning committee. I have also carried our some research work in ICTs in Zambia."

Erika SMITH

Address:	Alberto Zamora 126, Colonia del Carmen, Coyoacan, Mexico Distrito Federal, Codigo Postal 04100 (LaNeta offices)
Country:	Mexico
E-mail:	erika@laneta.apc.org
Nationality:	USA
Languages:	English, Spanish

Erika is an experienced trainer and user support staff. She considers herself an information facilitator, promoter of technology and advisor for strategic use, particularly for women's organisations and any non-governmental organisations.

Anna SYOMINA

Address:	App.17, 21/8 Malopodvalna Str, Kyiv-3, Ukraine, 252003
Country:	Ukraine
E-mail:	anna@gluk.apc.org
Nationality:	Ukrainian
Languages:	Ukrainian, Russian, English

"Since June 1995, I have been working on women and Internet issue through the APCWNSP. As part time Project Coordinator of GLUK APC in Ukraine since December 1996, I have organised and facilitated four regional trainings and various local Internet and e-mail trainings for NGOs."

lucia pavia TICZON (aka luchie)

Address:	66 3rd St. 2nd Ave., Riverside Village, Pasig 1608, Metro Manila
	Route 11 Box 81-A, Pojoaque, Sante Fe NM 87501, USA
Country:	Philippines
E-mail:	luchie@cybermesa.com
Nationality:	Filipino
Languages:	Filipino, English, Basic/elementary Spanish

"I usually dislike questionnaires and filling out forms in general. It feels like I am being cut up AND I am exercising discipline to help construct more appropriate ones (I do like framing questions!!!) as well as respond to this one!"

luchie lists her skills as: writing, research, feminist and gender analysis and critique, passing on knowledge and skills/tutoring/mentoring on use of e-mail or "any type of technology I get to be familiar with," networking.

luchie is particularly interested in understanding how groups are strengthened or broken by the politics of information and communication and correlative technologies. She was a member of the research team for this study, as well as the first APCWNSP study "Global Networking for Change: Experiences from the APC Women's Programme" (May 1997).

Adam TILLER

Address:	8 James St., Fitzroy, Melbourne VIC 3065
Country:	Australia
E-mail:	adamt@peg.apc.org
Nationality:	Australian
Languages:	English, Spanish

Adam was a staff of Pegasus in Australia at the time of the Beijing Conference, and was one of a handful of men who provided support — technical as well as cheering — for the women who worked from Beijing.

Adam has a University degree in Computer Science and has worked in the computer industry as programmer and analyst. At the time of the survey, he has logged 10 years of involvement in community-based international campaigning, solidarity work, and local activism.

"I do significant unpaid work as computer support consultant for a dozen Melbourne-based NGOs, most of them with an international focus and most of them using Internet technology.

"My philosophy is highly participatory and hands-off. I am quite conservative in my attitude to technology, in contrast to most of my colleagues. I will not promote new technology without expressed enthusiasm from my "clients".

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Marcos VILLAS

Address:
Country:
    E-mail: villas@ax.apc.org
Nationality: Brazil
Languages: Portuguese, English

[editor's note: Marcos Villas did not provide any information outside of his e-mail address, nationality and languages.]

Wilma M. Guerrero VILLEGAS

Address: Las Casas 931
Country: Quito - Ecuador
    E-mail: wilma@ecuanex.ec, wilma@ecuanex.net.ec
Nationality: Ecuatoriana
Languages: Spanish, English

"I have been with Ecuanex for three years and six months. My work as user support staff involves organising courses for new users, helping users with technical problems, training new user support staff. I also have some technical work which involves monitoring the Unix system.

"I am also in charge of conferences on our system, a work that involves creation, deletion and monitoring of conferences and distribution lists.

"For everybody who works in APC nodes, it is becoming important to understand English. A lot of the information we get about technical aspects, new conferences and even web pages are in English. I think this is a disadvantage for us. I would like to ask other APC nodes to speak, write and express themselves in a form that will be easily undertood by people whose principal language is not English.

Maja van der Velden

Address: Herslebsgate 32b, 0578 Oslo
Country: Norway
    E-mail: maja@xs4all.nl
Nationality: Dutch
Languages: Dutch, English, (Arabic, French, German)

Maja is a multi-talented networker who is skilled in the technical as well as the socio-political aspect of information and communication technology.

As a trainer, Maja has handled diverse topics such as Internet, UUCP, WWW, searching information, publishing information, basic computer skills and maintenance. She has developed training programmes on special issues (human rights, environment, agriculture), for user groups (journalists, women, health workers) as well as for technical support people and trainers. She has also written outreach and training materials, software manuals and system manuals.

Maja has worked in technical support (software and UUCP systems), servicing NGO project staff and network users. She considers herself an "information broker and facilitator." Maja has published various articles and papers and has spoken in various workshops and conferences on topics such as electronic networking, politics of the Internet (gender, North-South, language, policy, public access, freedom of communications), new media and human rights.

Maja has also worked in network development and management through Baraka NGO network in Palestine and Vrouwen.Net in the Netherlands.

Maja's Website is at: http://www.xs4all.nl/~maja/

Mercy WAMBUI

Address:	P.O Box 76406 Nairobi
Country:	Kenya
E-mail:	mwambui@iconnect.co.ke
Nationality:	Kenya
Languages:	Kiswahili, English, French and a little German.

"I conduct e-mail training on Fido -Front door, TB-point and IP (Netscape, Eudora, Microsoft Internet Explorer and mail). I also provide user support for some NGOs in the East African subregion with regard to information access using the Web, installing and configuring modems and managing information.

"I am mainly an editor and my work is mostly related to the application of telematics (community radio broadcasting and e-mail training) in three rural communities."

Scott WEIKART

Address:	IGC, P.O. Box 29904, San Francisco CA 94129-0904
Country:	USA
E-mail:	scott@igc.apc.org
Nationality:	USA
Languages:	English

Scott is a veteran Unix technician. At the time of the Beijing Conference, he was connected with IGC, the APC member in the USA.

Putting Beijing Online
Women Working in ICT

In September 1995, governments participating in the Fourth United Nations World Conference on Women (UNWCW) passed the Beijing Platform for Action (BPFA) — one of the strongest and most comprehensive international agreements on women's equality.

Crucial to the crafting of the BPFA was the vigilance of women everywhere. Thirty thousand women from all parts of the globe had gathered in Huairou and Beijing, while those who were left in their cities and villages monitored the conference though whatever means available: radio, cable news, video feeds, fax, and a new thing called the Internet. Together, the women onsite and offsite constituted a very powerful force, connected by the daily exchange of information and communication across the seas.

A crucial node in this network of women and information was the APC-led team of 40 women representing 25 countries and speaking 18 languages who worked together to provide Internet access, information services, training and user support to the women participating in the world conference. At the end of the UNWCW, 1,700 free e-mail accounts were opened, 62,000 e-mail messages were exchanged and 133,000 Web visits were registered at the electronic communication centre run by the APC team. This initiative demonstrated how computer networking can be a powerful mechanism for women's movement building.

Putting Beijing Online documents the reflections of the women (and some men) who worked onsite in Huairou and Beijing and offsite from all over the globe. It is the first volume of *Women in Sync*, a toolkit for women's electronic networking drawn largely from the pioneering experiences of APCWNSP.