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## **The Economics of ICT: Challenges and Practical strategies of ICT use for Women’s Economic Empowerment**

**Prepared by**

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# **The Economics of ICT: Challenges and Practical Strategies of ICT use for Women's Economic Empowerment**

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Information and communication technologies (ICT) provide a great development opportunity by contributing to information dissemination, providing an array of communication capabilities, increasing access to technology and knowledge, among others. However, access to and the cost of ICT continue to be a major development obstacle, particularly in the developing world. In peri-urban and rural areas the problem is even bleaker, where infrastructure is either old or non-existent. And these areas are home to a great majority of women and poor populations. If ICT are to become a means for improved economic conditions, particularly in rural and peri-urban areas, ICT policy and programs must address the needs of women and the poor in general.

This paper looks at challenges and practical strategies of ICT use for women's economic empowerment. It discusses the main challenges and obstacles faced by women, it suggests practical strategies to address those challenges and it provides recommendations on how to proceed in order to improve the conditions leading to women's economic empowerment.

## **Challenges of ICT use for women's economic empowerment**

Just as in many other areas of development (e.g., agriculture, health, and education), women face enormous challenges to use ICT for their own economic empowerment. Using and benefiting from ICT requires learning, training, affordable access to the technology, information relevant to the user and a great amount of support (to create enabling environments). The challenges are many and they fall in a few categories. The following is a discussion of some of these challenges and how they hinder ICT use for women's economic empowerment.

### *Affordable access and availability of Infrastructure*

Access to affordable services and availability of infrastructure is, without a doubt, a major requirement if ICT are to be used for women's economic empowerment. While

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this discussion focuses on access to telecommunications and ICT infrastructure, it is important to note that there are other infrastructure and service related factors that may influence the use of ICT, such as availability of electricity, transportation means and security, among others.

**Access to telecommunications infrastructure.** Telecommunications infrastructure is limited in most developing countries and costs are exceedingly high. Whatever little infrastructure is available, it is concentrated in the larger urban areas and services provided are only affordable to a few. Bandwidth costs as well as transmission costs incurred by Internet Service Providers (ISP) are high and passed on to users. In rural areas, where women make up the majority of the population, infrastructure is almost non existing and services are generally too expensive to poor populations.

Due to slow growth of basic telecommunications infrastructure, such alternatives as cellular telephones have increased dramatically and become almost substitutes for fixed lines, particularly in developing countries. In many countries, such as in Bolivia, Venezuela, Uganda, South Africa and the Philippines, cellular teledensity has surpassed or reached equal levels as that of main fixed lines.<sup>1</sup> This trend shows that, despite the fact that cellular services are still expensive, consumers value the ability to communicate. As with all statistics on ICT and telecommunications, there are no gender specific data, but evidence shows that, when provided with access and business opportunity, women have become owners and frequent users of cellular telephone services. The Grameen Phones program in Bangladesh, which sets Village Phone Operators to resell wireless telephone services, is an example of an initiative that has contributed greatly to women's economic empowerment and has increased cellular telephone use by women tremendously. In fact, "where women are operators, 82 percent of the users were women; with men operators, women comprised only 6.3 percent of Grameen phone users."<sup>2</sup> In La Paz, Bolivia, many women working in the informal market and as street vendors carry a cellular telephone and many have established successful "phone shops" within their businesses. These experiences should be shared with policy makers to demonstrate the great impact of women ownership women's use of services.

The rapid expansion of wireless technologies, including fixed wireless, provide great opportunities in rural areas and areas with no infrastructure. For example, in the Dominican Republic, fixed wireless public telephones were installed in rural areas without service. These telephones, operated using phone cards, not only provided the community with greatly needed telephone service, but also provided rural women with an additional source of income, as many sell the phone cards which they buy in bulk from the telephone company.

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<sup>1</sup> ITU, World Telecommunications Indicators, 2000-01.

<sup>2</sup> Hafkin, Nancy and Nancy Taggart, "Gender, information technology and developing countries," Washington, D.C., Academy for Educational Development, 2001.

[http://learnlink.aed.org/Publications/Gender\\_Book/Home.htm](http://learnlink.aed.org/Publications/Gender_Book/Home.htm)

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**Access to ICT.** Access to ICT is highly dependent on telecommunications infrastructure, particularly if one is focusing on telephone service, faxes, e-mail and the Internet. However, the use of ICT is not only based on these services. Radio, for example, provides a great source of information dissemination in many areas of the world, and so does Television. Where available, computers may be used as a source of information and a tool for training without the use of telecommunications. The use of CD ROMs, such as in the case of the IDRC-IWTC CD-ROM for illiterate women in Uganda, "Rural Women in Africa: Ideas for Earning Money" (both in English and Luganda), illustrate that ICT can be used in creative ways and in ways that are more effective and affordable than other solutions (such as browsing or obtaining the information via the Internet).

Radio and television, as the widest form of communication, provide one-way solutions for information dissemination. Women's radio clubs are increasing in Africa, Latin America and the Caribbean, and provide a means to share information on development issues. Recent projects show that radio can be used well beyond a listening only device, and effectively becoming a successful two-way communication tool.

*"In Zimbabwe, some 52 women's radio listening clubs are active in the Development Through Radio (DTR) project, aiming at giving rural women access to radio through participation in production of programmes based on their development needs and priorities. Information exchange is a significant part of the programmes. Women pose questions and an information intermediary puts the question to a concerned official. The response becomes part of the weekly broadcast."*<sup>3</sup>

In addition to being used as effective ICT for development, radio and television should be considered and used as a means to educate populations on the benefits of using ICT for development. Television and radio programs can be developed to educate women on various development issues, including the various uses of ICT and consequently, increase awareness and knowledge on ICT uses. When possible, such programs should be developed and conducted by women and content should reflect a gender sensitive perspective. Radio and television are important as they also tend provide information in local languages. However, it is important to be aware of local, regional and national gendered constraints to information. As illustrated by Emem Okon from Nigeria:

*"The ICTs are seen as tools for transformation and are expected to change the status quo. But..., how many African women in rural communities can access ICTs services? In Nigeria, there are no libraries or information centres in rural areas. Some cities have just one library, which everyone thinks is meant only for students. Electricity and the awareness is another problem. In a survey I carried out for the Federation of Media women Association in lieu of their development through Radio program, about 80% of respondents (women) said they don't own*

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<sup>3</sup> Hafkin, Nancy and Helen Hambly Odame, "Gender, ICTs and Agriculture," a situational analysis for the 5<sup>th</sup> consultative expert meeting of CTA's ICT observatory meeting on Gender and Agriculture in the Information Society, August 2002. <http://www.agriicta.org/observatory2002/documents.htm>

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*radio sets and they don't listen to radio. Their source of information remains their sons and husbands.*<sup>4</sup>

Access to ICT is crucial if they are to be used as a means for women's economic empowerment and no community should be left short changed simply because of a few alternatives. The challenge here is that we need to work towards universal access to ICT, while actively devising creative solutions to provide alternative access to information to those who needed the most and that can immediately benefit from the exchange of information, increased knowledge and diminished isolation.

It is important to note, however, that it will never be sufficient merely to establish physical facilities, whether communications networks or computers (assuming there is electricity), without ensuring that these facilities will be utilized by its users to the greatest extent possible. Providing access to advanced information technology services specifically implies fostering widespread education and awareness of their availability, strong emphasis on the knowledge and skills necessary to use the services, and also the understanding of how such technologies can be applied to improve individual and community social and economic welfare.

**Cost of access and lack of affordable solutions.** Even when infrastructure is available, affordable access is a concern in most developing countries. The recent trends in policy to move from universal service (one telephone per household) to universal access policies (access to communications and ICT through community access points), reflect concerns related to the cost of infrastructure as well as consumers ability to pay for service, particularly in rural and poor areas. Universal access policies aim at developing solutions that provide community access at affordable prices. New technologies have made these solutions more promising and many developing countries are investing in such policies. Expansion of public telephones and ICT access points (e.g., in post offices) are examples of these solutions.

Telecenters have become a fashionable solution to universal access, but even these projects do not guarantee affordable access. Most telecenters are implemented as business ventures that need to be sustainable and therefore, charge for services based on their costs, which, among other things, reflect high communications tariffs, expensive equipment, and salaries. While sustainability and even increasing profitability is possible in many areas, it is not possible in many other areas. The main challenge lies in the ability of advocates to influence the process and policy makers to establish policies that will improve access and lead to project success, such as discounted tariffs for telecenter and community access projects and/or special subsidies to fund projects until demand is large enough to ensure sustainability. It is important to understand that demand for ICT depends on awareness of the services and their capabilities as well as on training of users.

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<sup>4</sup> Quoted in Marcelle, Gillian, "Information and communication technologies (ICT) and their impact on and use as an instrument for the advancement and empowerment of women," Report from the online conference conducted by the Division for the Advancement of Women, 2002.

This process takes time and demand will increase as potential users became aware and comfortable with using ICT for their own development.

**Lack of gender awareness in telecommunications and ICT policy.**

Telecommunications and ICT policy lack a gender focus in most countries of the world. Despite what many may think, developed countries have not done much in this area at all. In fact, when it comes to women's participation in decision-making bodies, many developing countries are far ahead.<sup>5</sup> With respect to affordable access and availability of infrastructure, a lack of gender awareness and gender analysis results in policies that have differential gender impacts and do not reflect innovative solutions to address the variety of needs and demands of the population, particularly poor rural women.

Many challenges related to ICT use for women's economic empowerment are the result of lack of gender awareness in the policy making process. I would like to focus on a few items for this discussion:<sup>6</sup>

- With a few exceptions (e.g., South Africa, Korea), there is no emphasis on gender specific projects or any attempt at ensuring that policies reflect gender equality goals. There are no positive discrimination efforts in place to improve women's access to ICT, increase women participation in decision making or project management positions. Policies that increase women participation in decision-making and policy-making positions or that, for example, ensure a proportion of funds to be allocated to women ventures, women organizations or organizations with a strong gender focus, can contribute to increase use of ICT by women and consequently, contribute to economic empowerment.<sup>7</sup>
- It is important that women's ministries or agencies, gender focal points and gender advocates, coordinate efforts and participate in the telecommunications and ICT policy processes. These groups should be responsible for developing a gender agenda at the government level and training other government offices on gender analysis and on increasing awareness on gender issues.
- As a general matter, it is of the utmost importance to develop gender disaggregated telecommunications and ICT statistics and indicators. Despite the increasing amount of qualitative evidence on gender impacts, it is important to collect quantitative data that can be used to support gender-focused policy and programs. Lack of gender data makes it more difficult to make the case for gender sensitive policies.

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<sup>5</sup> Hafkin and Taggard, 2001.

<sup>6</sup> For additional discussion on gender and ICT policy, see Jorge, Sonia, "Gender Perspectives in Telecommunications Policy – A Curriculum Proposal," prepared for the task Force on Gender Issues, ITU, July 2000. <http://www.itu.int/ITU-D/gender>

<sup>7</sup> See, Jorge, Sonia, "Gender-Aware Guidelines for Policy Making and Regulatory Agencies," prepared for the Task Force on Gender Issues, ITU, August 2001. <http://www.itu.int/ITU-D/gender>

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*Social, cultural and economic factors:*

This is not an exhaustive discussion of the issues, but rather a brief overview of some of the most important social, cultural and economic factors that challenge the use of ICT for women's economic empowerment.

**Language and content limitations.** Lack of local and community related content as well as content in local languages continues to be a major barrier in women's use of ICT for economic empowerment. ICT can only be useful and meaningful, particularly to rural and poor women, if they provide relevant information and the tools needed to address women's needs and demands. Multimedia tools are essential, as they can be developed to provide information both in spoken and written languages. The challenge is to develop content that is relevant and useful to communities in their own language. Gender and ICT advocates must work hard to ensure that such content is developed and that funds be allocated for these activities.

**Education and skills.** With a great percentage of illiterate women and many speaking local and regional languages, ICT face tremendous challenge to be effectively used by these communities. Again, recent experiences show that it is possible to address these issues (such as the CD ROM projects in Uganda), and ICT advocates and policy-makers should focus on developing programs that address the development needs and demands of these communities in ways that they can benefit from it. Particularly, it is important to involve community women in the process of deciding what kind of projects will be most useful.

ICT require that users have some skills and no one should assume that by providing the facilities, everyone in the community will immediately embrace the technology. There are two important aspects here. First, as Eva Rathgeber clearly stated, "The key issue is that the technologies should be adapted to suit women rather than that women should be asked to adapt to suit the technology."<sup>8</sup> And second, ICT training is of the utmost importance if women are to use the technology of choice. Gaining the required skills not only allows women to feel comfortable as ICT users but it further empowers women to use ICT in many other ways, such as, for example, by increasing their employment choices and their contribution to community development. In Ecuador, where BarrioNet

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*"...the area where women's economic activities are most concentrated in developing countries is in the informal economy – women working at home on handicrafts and sewing or rolling cigarettes, working in cities as street vendors – working without any contracts or benefits. In some developing countries ninety percent of economically active women are in the informal economy. How can ICT empower women in the informal economy? If ICT is to make a difference in alleviating poverty and improving the well-being of women and their families, it seems to me that this is the crucial area for concentration."<sup>10</sup>*

This raises yet another important point: the complexity of women's lives involves aspects of care, education, health, and culture, but it is rather dominated by the economic activities they engage in order to provide for their families. The informal economy has certainly provided an option, in some cases the only option, for women to generate income and secure food supply for their families. In fact, in countries with high inflation, informal markets have provided higher real incomes than formal markets, where incomes are rarely adjusted for inflation. And many women and men, who hold jobs in the formal economy, also resort to informal markets for extra needed income. The challenge will continue to be one of reaching women in this sector and consequently provide them with ICT tools that they feel can make a difference in their income generation potential. For example, there are a few organizations (e.g., Development Workshop, ADRA and OMA) working with women in the informal markets in Luanda, Angola, however, with women's lack of time and daily pressure to make ends meet, it is difficult to bring them to resource centers and organize training sessions of any kind.<sup>11</sup> The well-known fact, it is difficult t



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*sewing just to mention a few. These are the crop of women that need and deserve poverty alleviation programs more than any other. ICT will expose these women to telecommunication services, media and broadcast services that will create markets for their products and services. They can use the IT to create and sustain business links.”<sup>13</sup>*

## **Practical strategies of ICT use for Women's economic empowerment**

Understanding the challenges allows us to better address the problems at stake and devise strategies consider the complex dimension of women's lives. Extremely interesting work in this area has recently been done by Nancy Hafkin and Nancy Taggard, who documented the many opportunities for women's economic empowerment through information technology use.<sup>14</sup> Hafkin and Taggard's report looks at opportunities in various economic sectors and also identifies opportunities in the new economy (or information economy). My goal is not to discuss ways in which ICT can be used for women's economic empowerment, but rather to present what I believe are some practical strategies that can facilitate women's use of ICT in ways that truly empower women and contribute to their development.

**Providing community access to ICT.** Community access to ICT addresses two of the greatest challenges in ICT use: lack of access and the cost of access. Community access can be provided in numerous ways, such as with phone shops, telecenters (with different models for different settings), public phones, libraries, among others, and in strategic locations (e.g., near or at the informal market area, adjacent to health clinics or support organizations, at women's organizations, etc). Community access can be affordable and based on dependable technology solutions (e.g., wireless and fixed wireless and satellite connections) that can rapidly be installed and effectively utilized. While this is not the topic of this paper, it is important to note here that any solution to provide access, particularly in rural areas or areas with no infrastructure at all (traditionally believed to be unattractive for private investment due to high costs and low demand potential), must be accompanied by regional and national policies that promote and facilitate the development and deployment of ICT in these areas. Such policies may include, among other things, community access tariffs, subsidized tariffs for areas with extremely low incomes, and special incentives for companies that invest in rural areas.<sup>15</sup>

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<sup>13</sup> Marcelle, 2002.

<sup>14</sup> Hafkin and Taggard, 2001, pages 49-64.

<sup>15</sup> For a detailed discussion of such policies, see, Jorge, Sonia, "Telecentres for Universal Access: Engendered Policy Options," Women in Action, ISIS International, 2002, forthcoming; Jorge, Sonia, "Gender Sensitive ICT Policy: Rethinking Policy Making," comprehensive training workshop, prepared for the Workshop on Equal Access of Women to ICT, Seoul, Korea, October 2001; Marcelle, Gillian, "Getting Gender into African ICT Policy: A Strategic View," in Eva Rathgeber and Edith Ofwona Adera, *Gender and the Information Revolution in Africa*, IDRC, 2000 and African Information Society-Gender Working

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In addition to affordable access to communications, community based access projects can provide new opportunities for women's economic empowerment by:

- Creating business and employment opportunities since women can be owners and managers of ICT access projects, as well as employees of the new business ventures;
- Creating an environment where women feel welcome and comfortable learning with others, getting trained on using ICT and participating in community development activities, including community advocacy efforts;
- Developing ICT based programs that address women's specific needs and that are run by women (e.g., literacy programs, business planning courses, ICT training, access to health information and services, access to market and trading information services and e-commerce initiatives); and
- Providing the skills necessary for members of the community to develop their own businesses and business applications.

By involving women from the community, projects create enabling environments, in which women feel more comfortable and can be more encouraged to participate. Women from the community also have a better understanding of needs of other women, who most likely require programs conducted in local languages, focusing on the main activities of the local population and with an understanding of the particular social and cultural constraints women have to face in the community.

It is important to view ICT as a tool to meet women's development needs and priorities, and as such, all forms of ICT should be considered to determine which is more appropriate in a particular setting and for the particular program. Despite the fact that the internet may provide more comprehensive information on a particular topic, it may very well be that a radio program or video produced in the local language will be more effective in the short run in disseminating requested information for women in a rural area. These types of solutions may be accompanied by discussions groups, where women can exchange ideas and share concerns. ICT advocates and practitioners must be aware of the gender dimension and constraints associated with each type of technology. It is our responsibility to make technology work for the people and in many cases, that requires a gradual transformation in the use of ICT themselves. For example, women in the informal sector may decide that cellular telephones are all that they need to improve their businesses, but may become more interested in the use of the Internet for business purposes once their businesses grow and as they feel more comfortable with using technology.

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Group, "Engendering ICT policy: guidelines for action," Johannesburg, 1999.  
[http://www.whrnet.org/icts/aigwg\\_intro.html](http://www.whrnet.org/icts/aigwg_intro.html).

**Be familiar with and take advantage of Telecommunications Development Funds (TDF) and other universal access policies.** There is a great disconnect between universal access policies and resources, and the many ICT projects being implemented through out the developing world. TDF are funds established and administered by telecommunications regulators to finance the expansion of universal access to ICT in underserved and rural areas. Funds are distributed based on the quality and cost of the

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*consuming it. Women of any age have to be involved in the training activities and emphasis should be put on young girls to become real actors in public life.”<sup>16</sup>*

Training programs should be offered free of charge or, in fact, be considered a “job,” in that participants are paid a certain salary as an incentive to participate and increase their education and qualification level. Salaried training programs were widely used in Europe by the European Union (EU) as a way to train the population in many poorer EU countries (e.g., Portugal, Spain, Greece) on new technologies, such as all computer related use, and new methodologies in various industries. Participants were paid a salary

programs that promote and facilitate the use of ICT. Using the example of women in the informal sector, it is important to allow women to choose the technology they feel most comfortable with, such as a cellular telephone to call for market prices, even if it may not be the most efficient solution (when the local NGO may provide daily up-to-date price information at no charge).

## **Where do we go from here?**

With access and cost being some of the greatest barriers for ICT use, it is of the utmost importance to engage women and gender advocates in the policy making process and dialogue. Advocates must make an effort to familiarize themselves with the various aspects of ICT policy and understand the gender dimension of these aspects. It is important to engender ICT policy to ensure that women, particularly rural and poor women, benefit from ICT. And gender and ICT advocates are responsible to inform the ICT debate on gender issues and for ensuring that gender analysis becomes integral part of the policy process. The same is true with respect to ICT project analysis and design. If we want to address gender with ICT projects, gender must be considered from the start of project design.<sup>18</sup> Only then can ICT policy and projects properly address the gender digital divide and further contribute to women's economic empowerment.

It is essential to engage the ITU and other UN agencies and programs involved in ICT work, in more active training of policy makers and ICT advocates on gender analysis. ITU frequently conducts training seminars and workshops for regulators and policy makers of member states. These training activities should incorporate gender considerations and gender analysis in their plans. In addition, each country's ministry of women affairs or equivalent agency should be involved in the process to mainstream gender among government organizations and should develop specific gender training programs to educate policy makers on gender issues and gender analysis.

In preparation for WSIS, UN and all its partners must make a special effort to develop and use gender disaggregated data and indicators at all levels of ICT development (i.e., from national ICT use to ICT program indicators). This will establish a base line of information that will be essential to monitor and evaluate access to ICT and the impact of ICT use for women's economic empowerment.

Lastly, but not least, steps must be taken to ensure that there is greater participation and access to the policy process and to information resulting from policy decision. It is frustrating to see that, even where there are policies and programs in place to improve access (e.g., Telecommunications Development Funds), few women's organizations or organizations working towards gender equality benefit from the programs. There is no reason for these organizations not to receive funds to establish ICT access points or even

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<sup>18</sup> Hafkin, Nancy and Sonia Jorge, "Get in and Get in Early: Ensuring women's access to and participation in ICT projects," Women in Action, ISIS International, 2002, forthcoming.

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to implement telecenter type programs. These sort of initiatives would certainly contribute women's economic empowerment.

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