



2-2008

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The final, definitive version of this article has been published in *Information Development*, Volume 24, Issue 1, 2008, © SAGE Publications, Inc. DOI: 10.1177/0266666907087697

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Abstract

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Comments

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GENDER AND NATIONAL ICT POLICY IN AFRICA: ISSUES, STRATEGIES, AND POLICY OPTIONS

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ABSTRACT

The paper commences with a review of the concept of Information Communication technology (ICT) and points out how ICT has become a potent force in transforming social, economic and political life globally. It then discusses the linkage between gender and ICT especially how ICT has widened the digital divide gap between Africa and the rest of the world on one hand and between males and females on the other. It later gives an overview of the ICT policy formulation situation in Africa pointing out the gender provisions in the national ICT policy documents of some African countries. It then reviews illiteracy rates and access to telephone facilities, computers, and Internet facilities in Africa and indicates that there is a digital divide on the continent between those who have access to the Internet and related technologies and those who do not. It finally presents the policy options and strategies to be adopted by African governments to enable women benefit from opportunities offered by ICTs. The paper concludes by submitting that unless gender issues are incorporated in national ICT policies in Africa the digital divide will continue to widen and most women that live in African rural populations would continue to be excluded from the benefits of ICT.

KEYWORDS: Gender, ICT Policy, Issues, Africa, Strategies.

Category of paper: Review

GENDER AND NATIONAL ICT POLICY IN AFRICA: ISSUES, STRATEGIES, AND POLICY OPTIONS

INTRODUCTION

Information technology (IT) has become a potent force in transforming social, economic, and political life globally. Without its incorporation into the information age, there is little chance for countries or regions to develop. More and more concern is being shown about the impact of those left on the other side of the digital divide - the division between the information "haves" and "have nots." Most women within developing countries are in the deepest part of the divide further removed from the information age than the men whose poverty they share. If access to and use of these technologies is directly linked to social and economic development, then it is imperative to ensure that women in developing countries understand the significance of these technologies and use them. If not, they will become further marginalized from the mainstream of their countries and of the world. It is essential that gender issues be considered early in the process of the introduction of information technology in developing countries so that gender concerns can be incorporated from the beginning and not as a corrective measure afterwards. Many people dismiss the concern for gender and IT in developing countries on the basis that development should deal with basic needs first. However, it is not a choice between one and the other. IT can be an important tool in meeting women's basic needs and can provide the access to resources to lead women out of poverty.

Traditionally, the tendency has been to view new technologies introduced into the global marketplace as gender neutral, having equal potential to be used by either men or women. Engineers in technology development gave no consideration to the symbolic value of technology or, perhaps more important, the symbolic value of the use of technology. As is already well documented, fewer women than men in Africa, as elsewhere, specialize in the sciences or engineering (Rathgeber, 1995). Moreover, if women seem to be "fearful" of technology or

reluctant to experiment with new technologies, then this is usually interpreted as a “female problem,” rather than as a reflection of the inappropriate design of the technologies or the aura of male dominance surrounding their use, or both. Thus, if women have not been active participants in the development and use of new technologies, then it is assumed this has been a result of (1) their own choice or (2) the fact that they have been slow to recognize the importance of a particular new technology. Seldom does anyone consider that women may take less interest in new technologies out of a sense of pragmatism, that is, out of their need to deal with a multitude of tasks, meet a variety of demands, and play diverse roles with limited time. In other words, whether or not some women have a “fear” of technology, they have a pressing need to attend to many diverse duties and have little time to experiment with new technologies simply out of a sense of interest (Rathgeber, 1995).

To a large extent, this traditional pattern of male and female attitudes toward technologies is replicating itself in the development of the new ICTs. Few if any statistics are available on the involvement of women in this sector, but preliminary observations indicate that women are greatly underrepresented. For Europe and North America, some anecdotal evidence indicates that women who do involve themselves in information technologies tend to bring with them interests and expectations different from those of their male colleagues. For example, early research has shown that women and girls in IT and engineering tend to be more interested in the social applications of technologies (Keller, 1992). Similarly, research in the United States suggested that girls are less likely to be interested in violent computer games, which are often very popular with boys. However, developing software for children has become a substantial industry in North America, with the result that a wide range of computer games is now available, including some designed specifically for girls.

In Africa, too, interest is growing in the potential that ICTs offer women. In the weeks before the 40th anniversary conference of the United Nations Economic Commission for Africa

(ECA) in April 1998, ECA joined the World Bank and the Women's Programme of the Association for Progressive Communications in organizing the Afr-fem Internet working group. The group's mandate was to gather field information on the conference themes, which led to numerous lively and lengthy discussions of the potential of ICTs to advance African women's interests. More than half of the group came from South Africa, Kenya, and Uganda. Only one-fifth came from Francophone Africa, and half of the Francophone group came from Senegal (AWG 1998). Perhaps not surprisingly, more of the members were Africans living outside Africa, especially in the United States.

AFRICA AND THE DIGITAL DIVIDE

On the global level, there is a growing digital divide between Africa and other continents. However, when discussing the digital divide within Africa, the major issue is not that of having access to the best IT that society can offer. In most cases it is a question of having access to the basic information communication technologies and appropriate information content. The extent of the digital divide in Africa can, to some extent, be illustrated by examining statistics regarding access to telephones, computers, Internet facilities and literacy levels.

Telephone Density

With about 14% of the world population, Africa has about 2% of the world telephone lines. The continent's population of about 739 million shares only 14 million telephones lines. Africa's number of telephone lines per 100 (telephone density) of 7.1 is the lowest in the world. In addition, "*the majority of the population on the continent has never made a telephone call*" (UNESCO 2000, p182). Within the continent, there are great disparities regarding availability and access to telecommunications facilities. According to 2004 statistics for telephone density in African countries, a large number of countries had a telephone density of less than 2 (www.internetworldstats.com, 2004). In fact, countries like Burkina Faso, Burundi, Central African Republic, Chad, Democratic Republic of Congo, Ethiopia, Guinea, Liberia,

Madagascar, Malawi, Mali, Niger, Nigeria, Rwanda, Sierra Leone, Tanzania and Uganda had a telephone density of less than 0.5 lines per 100 people. This situation means that millions of people on the continent do not have access to telephones.

Access to Computer Facilities

Although there is a noticeable increase in the availability of computers in Africa, it is almost impossible to get any latest and up-to-date estimates regarding the number of computer equipment, especially Personal Computers (PCs), distributed across the continent. From the figures extracted from the International Telecommunications Union's (ITU) (1998) world Internet Indicators statistics, Africa had about 5,027,000 personal computers, translated into 0.76 PCs per 100 inhabitants (ITU 2000). For a large number of people, who have access to computers, this is largely on computers located at work places and in the case of some fortunate students, at universities or colleges. The concept of computers for home use is not wide spread, partly due to the fact that in spite of the global trends in the reduction of prices for computers, in Africa, prices for these mostly imported equipment are way beyond the majority. Some governments still consider computers as luxury goods and thus impose high import duties and sales tax on computers making them more expensive and unaffordable to the majority (Chizenga, 2001).

Internet density

From the figures provided by InternetWorldStats.com (2004), only South Africa has over 3,000,000 Internet users. Regarding the percentages of people with Internet access in relationship to the country's total population, only Botswana, Cape Verde, Egypt, Gabon, Libya, Mauritius, Morocco, Namibia, Reunion (FR), Saint Helena (UK), Sao Tome & Principe Senegal, South Africa, Swaziland, Togo, Tunisia, and Zimbabwe have above 2%. It is evident that a large number of people in various countries on the continent are excluded from access to global

knowledge. Also, from Table 1, Internet penetration for Africa is 1.5%, despite a 14% world population.

Table 1: Internet penetration in Africa and Rest of the World

World Regions	Population % of World	Internet Usage, Latest Data	% Population (Penetration)	World Users %
Africa	14.0 %	13,468,600	1.5 %	1.5 %
Asia	56.3 %	302,257,003	8.4 %	34.0 %
Europe	11.4 %	259,653,144	35.5 %	29.2 %
Middle East	4.0 %	19,370,700	7.5 %	2.2 %
North America	5.1 %	221,437,647	67.4 %	24.9 %
Latin America/Caribbean	8.5 %	56,224,957	10.3 %	6.3 %
Oceania / Australia	0.5 %	16,269,080	48.6 %	1.8 %
WORLD TOTAL	100.0 %	888,681,131	13.9 %	100.0 %

Source: www.internetworldstats.com, (2004)

From the above table, it is obvious that the rate of *Internet* access for each of the regions does not match global population figures. *Sub-Saharan Africa*, which has 14 percent of the world's population, has only just over 1.5 percent of Internet users, whereas 5.1% of the world's population, in North America, constitutes almost 1/4 of total Internet users.

Illiteracy Rate

According to Chizenga (2001), Africa's population is predominantly rural and the continent is the lowest urbanized in the world. In addition a large number of people do not have access to education facilities, and sometimes where these are available they are of very poor quality. Although illiterate rates have reduced from the figures of the 1980s and early 1990s, the number of people who cannot read or write in Africa is still relatively high. Estimates of adult illiterate rates for 2004 extracted from figures provided in the *UNESCO Institute for Statistics 2005*, indicate that Africa has over 185 million illiterate adults. It is important to note that a large number of these people are females. Illiteracy rate figures for females range from 49% to 87% in some countries. The consequences of a large number of people on the continent not being able to read and write are many. Among them is the negative effect on development and the inability of the people to use various information communication technologies and access digital information (Chizenga, 2001).

BACKGROUND TO AFRICAN ICT POLICY-MAKING

The first regional support for information work in Africa was provided by IDRC of Canada in 1976. IDRC started with the publication of a document titled Development Sciences Information System – (DEVSIIS), which brought into focus the importance of information in the development process of developing nations. DEVSIIS stimulated the establishment of two regional socio-economic information systems: the Information System for Planning (INFOPLAN) for Latin America and the Caribbean, and the Pan African Documentation and Information System (PADIS). PADIS was established for Africa by the UNECA and has four sub-regional centres namely: East and Southern Africa, Central Africa, North Africa and West Africa. These are the Documentation and Information Systems located in Zambia, Zaire, Tunisia and Niamey respectively. The objectives of PADIS include: assisting African nations in strengthening their national capabilities for the collection, storage and utilization of data on development; promoting the improvement of information infrastructure in African member states; promoting the utilization of common methodologies for information handling in the region; and ensuring compatibility with international information systems, among others.

IDRC has also supported numerous information projects in Africa ranging from the establishment of electronic databases to provision of scientific and technical information to end-users, and the establishment of schools of information science in Africa such as the Africa Regional Centre for Information Science (ARCIS). In recent years, its focus has shifted toward projects that add value, emphasize innovation, enhance capacity building and promote sustainable development as well as those that aim to formulate appropriate marketing strategies for information products and services (Akhtar and Melesse, 1994). IDRC, like some other international institutions, has been calling upon governments in Africa to come up with national information policies. This call was succinctly reiterated in an IDRC report titled *Sharing knowledge for Development: IDRC's Information Strategy for Africa* (IDRC, 1989). IDRC

equally embarked on a global programme initiative. According to Valantin (1996), the effort was geared toward placing information and communication (ICT) policy on the international research agenda and improving the effectiveness of present and future investments in research, R&D and technology transfer cum adaptation related to information and ICTs through interdisciplinary research.

In like manner, UNESCO, through its General Information Programme (PGI) launched the "Priority Africa" programme from which the term "informatica" came out. "Informatica" which means, "informatics in Africa represents" UNESCO's strategy for promoting and applying informatics to the socio-economic development of nations, and some national institutions in different countries were set up for support in the area of capacity building in informatics. To meet new challenges, UNESCO came up with two very important concepts, namely: National Information Systems (NATIS) and World Information System for Science and Technology (UNISIST). The two concepts have had far-reaching impact on the formulation of national information policies. The concepts sensitized most developing countries to critically reconsider their positions with regard to the efficient and effective development of their information services and systems in support of their respective national development efforts.

In addition, the efforts of UNESCO to assist developing countries to improve their information management capability culminated in UNESCO sending advisers; supporting seminars and workshops, and ultimately, issuing special guidelines on the formulation of a national information policy in developing countries. The guidelines were to act as reference tools for action by "information specialists as well as administrators and planners from various fields" who are responsible for the formulation and implementation of a national information policy.

Among other initiatives to building Africa's Information and Communication Infrastructure was the African Information Society Initiative (AISII) set up in 1996 under the aegis of the United Nations Economic Commission for Africa (UNECA) in partnership with IDRC,

UNESCO, International Telecommunications Union (ITU), World Bank, Bellanet, etc. AISI developed a framework on which to base information and communication activities in Africa. Its priority areas include: policy awareness, national information and communication infrastructure (NICI) plans, Internet connectivity, training and capacity building, development information, etc. The vision of AISI was to make Africa a sustainable information society by 2010, make Africans have access to information and knowledge resources through computers and telecommunications, and make indigenous information resources available to all sectors of African societies and the global economy.

The theme of the AISI document was “Africa's development: its challenges and opportunities in an information age”. The document laid down the policy responsibilities of each African country towards achieving socio-economic development. These policy responsibilities of each African country in the implementation of AISI were clearly spelt out by the UNECA's Executive Secretary, in the following words (Amoako, 1996):

“The implementation of the African Information Society Initiative will take place at country level, starting with National Information and Communication Infrastructure plans, and it will be elaborated through programmes and pilot projects reflecting national needs and priorities. (UN)ECA, with its partners will work directly with countries to assist in drawing up national action plans, to develop programmes and to draft projects to help support systems for government business and society” (Amoako, 1996).

Within the ambit of the African Information Society Initiative (AISI) and its forerunners, there has been some important research and analysis of the readiness of African countries to undertake policy interventions in the ICT sector. From 1993-1995 the United Nations Economic Commission for Africa conducted a study of informatics policy instruments in 10 African countries, five of them primarily Francophone (Cameroon, Congo, Cote d'Ivoire, Madagascar, and Senegal) and five primarily Anglophone (Ethiopia, Kenya, Nigeria, Tanzania and Zimbabwe). It examined policy instruments rather than policy itself because no African countries had ICT policies at that time. Despite the fact that many areas prime for gender analysis (all of the countries suffered from a shortage of trained manpower in informatics, and all had policies

and instruments to promote the development of human resources in information technology) were delineated in all the national policy instruments, there was no mention of gender in any of the ten studies (Hafkin, 1995).

GENDER ISSUES AND ICTS IN AFRICA

In 1996, the ECA Conference of African Ministers responsible for economic and social development and planning adopted the African Information Society Initiative (AISI). Gender concerns were explicitly set out, with the idea that women were both users and providers of information and the idea that gender cut across all of AISI's major themes: policy, infrastructure, connectivity, human-resource development, and content creation. ECA and its partners in AISI implementation (Partnership for Information and Communication Technologies in Africa [PICTA] [ECA, 1998]) have undertaken significant gender-focused activities through the theme of democratizing access to the information society, a major theme of AISI (see also the AISI 1996; PICTA 1998).

The area in the linkage of gender and ICTs that has received the least attention in Africa to date is the role of women in the information economy — the jobs and economic opportunities created by ICTs, whether used in the primary information sector (telecommunications and informatics industry, software, libraries, etc.) or used to enhance productivity and growth in other sectors. In other regions of the world, the information economy has opened up employment and entrepreneurial opportunities for women (for example, in information processing, teleworking, and rental of telephones, as with Grameen Telecommunications). However, in Asia, the advent of ICT-related industries has slotted women into low-paid jobs with long hours (Mitter and Rowbotham 1995). Outside the most visible spheres of penetration, in which women are much more likely to be secretaries using computers than systems analysts and programmers, the examples in Africa are not widespread enough to have economic significance (that is, the women in Ghana and Senegal who own and operate phone shops and the woman in Malawi who owns an

Internet service provider company). Although the topic of the possibilities for development of a knowledge-based economy in Africa is yet to be explored in any depth, either in its gender dimension or overall, it remains an important one for the future.

In this connection, after a resolution of the April 1998 World Conference on Telecommunications Development, the International Telecommunication Union (ITU) established a gender and telecommunications working group, in which African issues were well represented (Women's Net 1999). Also, at the conclusion of the ECA conference in 1998, the APC issued a communiqué underlining what it regarded as the key issues on gender and ICTs in Africa (APC 1998). These issues according to (APC, 1998) were:

- *Enabling environment* — Women and other members of civil society need to join forums to convince policymakers of the importance of an enabling environment in which communication and communication technologies can flourish;
- *ICTs in education* — ICTs must be part of the curriculums for girls and boys everywhere in Africa from an early age;
- *Content production* — Men and women should be encouraged to develop content relevant to their interests and needs;
- *Information facilitators* — Owing to the growing complexity of the technology, information facilitators are needed to interface with communities to help them meet their information needs; and
- *Private-sector commitment to sustainable development* — As a vital partner in extending connectivity in Africa, the private sector needs to realize the importance of access to ICTs for all groups in society, including women (APC, 1998).

GENDER ANALYSIS OF NATIONAL ICT POLICY IN AFRICA

In 2000, Gillian Marcelle looked at the evolving ICT policies of four countries that were leaders in the ICT-policy making area that also were countries known to be advanced in the area of gender equality in national policy (Mozambique, South Africa, Uganda and Senegal). These were her observations on the treatment of gender issues in the countries:

In Mozambique, existing policies do not include any treatment of social issues, including gender. In Senegal, Telecom policy formulation has focused almost exclusively on performance of the operator and sector structure; women's NGOs and other stakeholders concerned about gender issues are active in Senegal but have not been able to influence the development of national ICT

policy. The Telecommunications Act in South Africa includes provisions to redress gender imbalance and other areas of disadvantage. The consultative process to draft the Act did not deal explicitly with gender issues. Finally, in Uganda, the Telecommunication Sector Policy Announcement supports the establishment of a fund for rural communication development but does not explicitly identify women as a group for special treatment within rural communities. Thus, up to 2000 only South Africa showed any awareness of gender issues in ICT policy. From 2000 to date below are highlights of ICT policy initiatives in some African countries.

Mozambique

When the country's ICT policy was approved in December 2000, there was much hope that this would become a best practice on gender issues because the policy contained an entire chapter on gender and youth, covering a wide variety of policy areas from decision making to training, e-commerce, applications and content development (Mozambique, 2000). However, the strategy for implementation of the policy adopted in July 2002 has proved disappointing on the incorporation of gender issues. It contains no references whatsoever to women using or producing gender and ICTs. The only reference to women, along with children, is as victims of pornography, abuse, and violence on the Internet. Obvious opportunities for including gender issues were missed in specific references to mobile ICT services to reach remote areas, in human resources development, in capacity building, in ICTs to promote literacy, and in the chapter on youth. (Although youth and women were discussed together in the 2000 Policy, in the Strategy women dropped out entirely!). Significantly, no women's organizations were mentioned as participating in the national Consultative Forum (Mozambique 2002).

South Africa

South Africa entered the new millennium with the basis for gender awareness in the dissemination of ICTs in the country, largely through the advocacy of women's organizations and other gender-sensitive groups. The foundation was laid in the country's White Paper on

communications (1996). Besides referring to those who were disadvantaged by the apartheid system in the past, the term ‘disadvantaged’ also applies to those South Africans who have been historically disadvantaged through discrimination on the grounds of gender and/or disability. The White Paper also stressed the need to ensure gender equality in issues such as licensing, procurement and training. The Telecommunications Act of 1999 establishing the Universal Service Agency of South Africa provided the policy and legislative framework is present for positively impacting gender. However, implementation has fallen short on gender impact. Gender has not been mainstreamed into the activities of regulators and operators. A major reason for the shortfall is that current policy does not address issues of affordability, because technical features of the network are presumed to be gender-neutral with respect to cost considerations, and because insufficient attention has been given to seeking innovative ways of addressing women’s information needs. Who will benefit from the policy is a relatively small percentage of women through their inclusion in the ownership and control of new companies or from increased employment or promotion opportunities in the telecommunications sector (Gillwald, 1999).

Nigeria

From the content analysis of the Nigerian IT policy, it is evident that the IT policy relegated gender issues to the background. All through the policy document, gender concerns were not addressed in a way that shows an understanding of power imbalances and gender relations. It makes no attempt to show an understanding or appreciation of gender issues. This is evidenced in the use of gender-neutral terms throughout the document that seems to assume that by using these terms, it is including everyone, within broader categories of people without recognizing the different contexts, needs or contributions by different sexes. From the vision and mission statements, it is evident that the Nigerian IT policy does not have anything relating to gender. Though the vision and mission statements of are based on the need to create knowledge in the various sectors of the economy, however, the statements could have been made more gender

sensitive by recognizing the fact that a disproportionate majority of the world's poor are women. Not only do too many women lack access to economic and social resources, but also they are also too often denied basic human rights. Gender inequality acts as a brake on progress in all sectors of development. (Zunguze, 2003). Also, statements on human rights, public participation, gender equality, media diversity and other freedoms should have been included on the discussion of vision and mission.

Zambia

According to Zunguze (2003), the Zambian ICT policy addresses the various ministries and sectors but fails to address gender and in particular women's concerns in context. Gender concerns are not addressed in a way that shows an understanding of power imbalances and gender relations. The Policy makes no attempt to show an understanding or appreciation of gender issues. This is evidenced in the use of gender-neutral terms throughout the document that seems to assume that by using these terms, it is including everyone, within broader categories of people without recognizing the different contexts, needs or contributions by different sexes. According to Zunguze (2003) the Zambian ICT policy is very weak on addressing socio-economic factors. The policy document states that the government will “ create an enabling environment and incentive to promote public and private sector investment in the ICT industry”. There is no elaboration on whether the established criteria will give preference to woman-owned companies and/or companies with women in top management positions. General comments it has been clear from years of experience that so-called gender-neutral policies or rules are not enough. The evidence lies in the facts: women are vastly under-represented in government, business, political and social institutions; men still hold most of the management and control positions in telecommunication companies and regulatory or policy making bodies; regulatory decisions are

made without any impact analysis; service licenses are attributed to companies without equal opportunity policies and controlled mostly by men.

Moreover, in nearly every other African country (and at least 34 of 53 are actively working on elaborating ICT policies) gender issues have yet to be introduced into ICT policy making in Africa. A 2002 examination of ICT policies described on ECA African Information Society Initiative Web site showed that in ICT and rural development- the key area of gender issues for women in Africa, only one plan made any reference to gender. The sole exception was that of Cote d'Ivoire, and the citation was not substantive, but rather a passing reference to the need to consider women (Opoku-Mensah, 2002). While Uganda is making good progress in delivering service to rural areas, but gender focus is still not yet explicit.

POLICY STRATEGIES FOR MAKING ICTs BENEFIT WOMEN IN AFRICA

ICT has profound gender implications for both men and women in employment, education, training and other productive and personal development areas of life. What becomes clear from the above discussions is that access for women will depend critically on where the technologies are located. The most efficient and beneficial use of ICTs is closely related to the kind of information produced and distributed, that is, information that directly supports women's activities and responsibilities. Also, ICTs can offer significant opportunities for virtually all girls and women in Africa. While there are many challenges and barriers facing African women's participation in the global information society such as - infrastructure deficiencies, policy misdiagnoses, and structural and cultural features of African societies, etc. In spite of these challenges, the ability of women in Africa to take advantage of the opportunities of ICTs is contingent upon conducive policies, an enabling environment in their countries to extend communications infrastructure to where women live, and increased educational levels. In general, policy options for the inclusion of gender issues in African countries' ICT policy should address the following key areas so that women in Africa can fully benefit from the numerous

opportunities offered by ICTs. The areas include connectivity, accessibility, content and services, ICT skills development, sustainability, partnership with local stakeholders and sensitivity to gender concerns and the needs of disadvantaged groups.

(a) *Focused and comprehensive public policy intervention*

According to Marcelle (2000) empirical research has confirmed that when gender-analysis is not included as an essential requirement of policy making in technological fields, the resulting policies often ignore the needs, requirements and aspirations of women. Even when gender is introduced at a conceptual level, policy makers often rely on very poor, outdated, incomplete and inaccurate data. Furthermore women from developing countries are poorly represented in the national and international decision making bodies, which determine science and technology policy; this under-representation can also lead to ineffective and gender-blind policy making. African policy makers can draw on the recommendations of international initiatives such as the UNCSTD Gender Working Group, the Women Watch Expert Group Report, the UNESCO/ SID Women on the Net Project, the Beijing Platform for Action, and the work of the Commission for the Status of Women, to present arguments supporting the case for gender analysis and awareness to become important principles in ICT policy making. As the AISI and Acacia make further progress, important policy guidelines, which are specific to the African context, are likely to emerge. A major task of policy intervention must be a campaign of awareness-raising and training which sensitizes ICT policy makers to gender equity issues. Concurrently with this training, it will be important to sensitize gender and development policy makers to ICT issues (Marcelle, 2000).

(b) *Building Infrastructure to achieve better connectivity*

A key challenge that must be addressed by African countries for women to be able to exploit the opportunities provided by ICTs is the lack of infrastructure and connectivity. Telecommunication infrastructures will have to be upgraded and extended to where there are

none right now. With little financial resources, creative solutions can be found. The satellite revolution holds considerable promise for African countries in this regard. Connectivity addresses the availability of ICT infrastructure (communication lines, satellites, hardware for telecommunication, computer networks, etc.), including a reliable electrical power supply to operate ICT services properly. In Africa, rural and remote areas are often the last frontier for ICT connectivity because such areas offer poor prospects for economic returns for operators or providers. In this connection, African governments have to put policies in place to address the infrastructure and connectivity problem. Governments have a key role to play in providing legal and regulatory frameworks for a competitive telecommunication sector in order to attract private sector investments. The Government needs to move from State-run monopolies and administered prices to a regulatory environment, which promotes competition and leads to major price reductions (Department for International Development, 2000). However, government regulation is required to ensure a balance between the provision of such projects in the main urban areas and their outreach to rural and remote areas. The emergence of wireless communications technology offers the possibility of providing cost-effective ICT connectivity in remote areas. This would enable even small-scale development projects to establish Internet connectivity in areas where market forces are not strong.

(c) ICT Education and skills development

Building ICT skills is an important component of any ICT intervention because new skills are required for operating the computer, browsing the Internet and making use of various communications tools such as e-mail, “chat rooms” and video conferencing. Providers and users need continuing education and training to learn ICT skills and keep up with new developments in hardware, software and services. Investment in building human capability is essential in making ICTs benefit women in Africa. Basic literacy is a prerequisite for learning ICT skills. This requirement is a major challenge in expanding ICT in Africa where illiteracy is widespread.

Based on figures collated by UNESCO in 1995, well over 1 billion men and women, mostly from developing countries, lack basic literacy. Women are much more likely to lack the ability to read and write in their own language. Across a wide range of different cultures, for every illiterate male there are two illiterate females (IICD, 1998). In this regard, African governments must assume a leading role in building ICT skills among their citizens. Likewise, educational curricula from primary schools through to universities must include computer training. Women and the youth, that are often left out traditionally, must be targeted.

(d) Create culturally resonant content

One of the most significant barriers to use of ICT products and services in Africa is that the information products which are created, circulated and transformed using electronic communication technologies, are predominantly in English language. There are many thousand African languages and dialects and there are very few Internet products, which contain material in these languages (Marcelle, 2000). A second important factor is that the volume of information, which is African produced and accessible on ICT networks, is still quite small. While African women are likely to benefit from and to be interested in using ICT networks to access internationally produced information, their enthusiasm will be much greater if these ICT networks are used for a two-way flow of information. Support for African women's content creation and networking efforts therefore must be seen as a priority for any national ICT strategy, which seeks to include gender equality objectives. There are many examples of projects, which aim to support African women as information providers including: GAIN, Women Net (South Africa), ECA African Centre for Women (the organizers of the 40th anniversary Conference), and ENDA. These initiatives should be well integrated with efforts to set up telecentres and library extension programmes since there is a potential for cross-sharing of technical and human resources (Marcelle, 2000).

(e) Accessibility

The installation of ICT infrastructure alone does not guarantee access. In many African countries, most people cannot afford to pay for ICT services. Many governments are currently in the process of developing legal and regulatory frameworks for the telecommunications sector in order to be WTO-compliant and attract sectoral investments needed to cover costs. Without a change in pricing structure, there is little hope of providing ICT access for African women population. Today, community-based telecentres are becoming a popular model for providing access in rural areas where majority of African women population are. Qvortrup (1994) has described telecentres in such a way that they are an extension of telephone service centres. According to Qvortrup, telecentres are multipurpose centres that encompass telephone services with other computer-aided telecommunication services. In Africa, nineteen countries have adopted this strategy to date: Benin, Burkina Faso, Cape Verde, Chad, Ethiopia, Gabon, Malawi, Mali, Mauritius, Mauritania, Morocco, Namibia, Niger, Senegal, South Africa, Togo, Tunisia, Uganda, and Zimbabwe. The communal mode of access is suitable because the cost for an individual to pay for a computer, telephone and Internet subscription would normally be beyond the means of rural people. Telecentres have played an important role in providing access in rural areas. They facilitate the provision of social and economic services to the poor, thereby contributing to poverty alleviation. They also contribute to the development process by providing accelerated community-wide access to ICT, creating self-sustaining community competence in the knowledge-based economy and building markets and opportunities for the private sector. The success and impact of telecentres depend heavily on how well they are integrated into the social and economic environment of the rural community. Thus, African governments should strive to ensure that telecentres are cited in places accessible to women.

(f) Content and services

Many ICT initiatives have failed to meet expectations, simply because they have not addressed the real needs of their clients or their role in the local economy and have failed to

identify locally relevant contents. Such operations are often set up with predefined objectives, but without prior consultation with their intended users; the result is that they may not be reflecting the needs and interests of the local people, who in turn do not use them. ICT initiatives by African governments for African women population must be location- and needs-specific. It is not enough simply to assume that the benefits of ICT will trickle down to the rural poor; their information needs must be assessed carefully and their participation must be sought on how best to address their needs. ICT services should also be compatible with the values and needs of women, thus reducing resistance to technology and encouraging participation. In this regard, it may be necessary to study the living conditions, culture, existing uses of and access to information sources as well as the information networks in the community.

CONCLUSION

ICT cannot be effectively used for development unless the crucial problem of the digital divide is addressed, not only between developed and developing countries, but also in terms of gender, class, age, ethnicity, language, geographical location and physical ability. African countries are currently faced with the difficult task of developing a national ICT policy framework that could enable the women in the region benefit fully from the numerous opportunities offered by ICT. Ensuring that African women benefit from ICTs requires coordination and the involvement of a broad range of stakeholders. We conclude that African governments have a lot to do in ensuring that women greatly benefit from the opportunities offered by ICTs. This will take the form of putting the right policies in place to combat the challenges especially in the areas of focused and comprehensive public policy intervention, infrastructure development, ICT education and skills development, creating culturally resonant content and ensuring accessibility. Unless gender issues are incorporated in national ICT policies in Africa, the digital divide will continue to widen and most women that live in African rural populations would continue to be excluded from the benefits of ICT.

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