ICT Usage in Sub-Saharan Africa

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INTRODUCTION

Given the circumstances of women's lives in *sub-Saharan Africa*, it may appear that *information and communication technologies* (*ICTs*) are only for wealthy, well-educated, urbanized women with time to use them, and that they are irrelevant for other women in sub-Saharan Africa. However, this is not the case: women see ICTs as providing opportunities for change, by giving them access to the information which will help improve their circumstances, as the abundant research shows (Hafkin & Taggart, 2001; Huyer & Mitter, 2003; Morna & Khan, 2000; Pacific Institute of Women's Health [PIWH], 2002; Rathgeber & Adera, 2000).

This article presents an overview of women as ICT users in sub-Saharan Africa, covering the challenges and the success stories. Since there is a large body of literature covering this area, only a representative subset is surveyed. The focus here is usage. Information technology (IT) professionals and more technological topics are considered elsewhere in this volume. Much of the literature about usage in developing countries takes a broad definition of ICTs because of the lack of the latest technologies. For example, Holmes (2004) includes computers, the Internet, mobile phones and wireless technologies as well as telephone, radio, television, print media, listening groups, and community theatre. This article will consider all electronic technologies, from computers and networking to radio and television.

When considering ICTs and developing countries, the *digital divide* is often mentioned. This term is sometimes used specifically to refer to the Internet; for example, see DiMaggio, Hargittai, Neuman, and Robinson (2001). In line with the broad definition of ICTs given above, in this article, the term *digital divide* will be used to refer to inequality in access to ICTs and ability to use them. There are multiple divides: men vs. women, urban vs. rural, rich vs. poor, young vs. old, developed vs. developing. When considering developing countries, there is an underlying information divide—people do not have access to information sources they require, electronic or otherwise, due to poverty and lack of infrastructure. This is the real problem that needs to be solved—ICTs are a means to this end.

BACKGROUND

Sub-Saharan Africa has a population of 641 million where only 35% of the population lives in urban areas, and almost half of the total population is under 15 years of age (United Nations Development Programme (UNDP), 2004). 32% of the population is undernourished, 323 million people live on less than $1 per day, and it is estimated that 8% of the population is HIV-positive; the UNDP Human Development Index for sub-Saharan Africa has decreased during the 1990s, showing the effect of the HIV/AIDS epidemic (UNDP, 2004).

All of the countries in sub-Saharan Africa are classified as developing. Thirty-one are classified as *least developed countries* by the United Nations (UN). There is a large need for development—a legacy of the history of slavery and colonialism which has affected the region. Progress has been made; for example, the adult literacy rate is 63% compared to the youth literacy rate of 77% (UNDP, 2004) which indicates that access to education is increasing. Clearly there are differences between countries; Mauritius, South Africa, and Nigeria, for example, have less poverty, although they have large wealth disparities within their populations.

In terms of technological infrastructure, there are only 15 landlines, 39 cellular subscribers and 10 Internet users per 1,000 people (UNDP, 2004). Rural areas are less likely to have electricity than urban areas, so battery, solar-powered, or wind-up radios are prevalent.

Status of Women in Sub-Saharan Africa

Women's lives in sub-Saharan Africa are influenced by strong societal opinions about their roles including an expectation that they will focus on the home, and they have less access to education and health than men do (Huyer, 1997; Momo, 2000). The female adult literacy rate is 54% compared to the male adult literacy rate of 70%; and the female youth literacy rate is 72% compared to the male youth literacy rate of 81% (UNESCO, 2004). The gross enrolment ratio at primary level is 78% for girls, and 91% for boys; at secondary level, 24% and 30% (UNESCO, 2004).

The contribution of women in terms of housework, child-rearing, subsistence farming and community management is not valued in a cash economy, and hence overlooked (Huyer, 1997). This contribution is important, and women often want to use ICTs and other information sources to improve the conditions of their families and communities. However, because of women's multiple roles, time is limited, hence the time taken to seek out information must balance with the gain achieved (Huyer, 1997).

ACCESS TO ICT

Access to ICTs is low. In 2000, women made up 12% of Internet users in Senegal, 32% in Uganda, 38% in Zambia and 51% in South Africa, but the number of Internet users in these populations is small, hence few women have access (Hafkin & Taggart, 2001)

Some of the obstacles to use of ICTs by women are low levels of literacy and education, lack of materials in local languages, lack of time, inconvenient opening times for public ICTs, cost, safety issues, sociocultural expectations about women's roles and movement in public areas, and lack of skills in using ICTs (Hafkin & Taggart, 2001). These barriers do not just occur because of poverty; they are amplified by the second-class status of women (Hafkin & Taggart, 2001).

Education is crucial; Amolo Ng'weno notes that a high school education is required to use the Internet effectively (Carnevali, 2002). With low rates of secondary education, access alone is not sufficient. The HIV/AIDS epidemic is also an issue; girl children are more likely to be removed from school to care for sick relatives, and teacher numbers are decreasing significantly (Isaacs, 2002).

Education

Few schools in Africa have access to ICTs, and to date little research has been done. Isaacs (2002) highlights the fact that many *SchoolNet* projects do not consider gender, and this may affect how successful they are for girls. The introduction of ICTs in education may be both positive and negative. In Africa, women are a substantial number of those studying by (non-computer-based) distance learning because learning can be fitted around domestic activities, and Derbyshire (2003) suggests that the introduction of computer-based distance learning could impact the number of women studying if they have no or limited access to computers, although it could also increase their interaction with other learners.

The World Links program was found to have positive aspects for girls. This program placed computers with Internet access in schools in Senegal, Mauritania, Uganda, and Ghana. Gadio (2001) reports that in all countries, teachers felt that girls gained more academic benefit from usage because of their focus on academic material. The girls also reported increased self-confidence, and the opportunity to obtain information about health and sexuality that is not available otherwise. However, in Uganda and Ghana, girls had less access due to after-school chores and social prohibition on running which prevented them from getting to the labs before boys. In comparison to boys, no girls took part in maintenance of the labs, even at single-sex schools, although at one school, the girls used their skills to teach primary-level children about computers, which appears to indicate a lack of interest in maintenance rather than lack of confidence with computers.

Public Access

Telecenters have been proposed and implemented as a way of achieving access to telephones and other ICTs. Additionally, in many cities in Africa, commercial Internet cafes are becoming common (Levey & Young, 2002; Mbarika, Jensen, & Meso, 2002).