Information and Communication Technologies (ICTs) and development information for professional women in Zambia

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Abstract: Information and Communication Technologies (ICTs) can contribute to the development information needs of women in the developing world. While a number of studies have examined the relationship between gender and ICTs, few have investigated the link between ICTs, women and development information. Women comprise half of the world's population but are generally excluded from participation in development plans and policies. In order for women to participate in development decisions, they need access to development information including health, education, agriculture, environment, good governance and water and sanitation. ICTs can provide that access. The purpose of this study is to investigate whether professional women in Zambia use ICTs to access development information. Over 200 professional women participated in the study. The results are reported and include the participants' access to ICTs and development information, the types of information they use most often and the barriers to access and use.

Keywords: Information and Communication Technologies; ICTs; women; gender; development; Zambia; information needs; developing countries; social exclusion; digital divide; information society.

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1 Introduction

Women form the foundation of any society because they determine the shape of individuals and society (Olorunda, 2004). Society's ability to develop depends on the ability of individuals, including women, to access information and knowledge. Information and access to Information and Communication Technologies (ICTs) are basic human needs and a basic human right (Opoku-Mensah, 2000). The United Nations (UN) Declaration of Human Rights supports this by stating, "Everyone has the right to seek, receive and impact information and ideas through any media and regardless of frontiers" (United Nations, 2005c). Access to information is a prerequisite for human empowerment as it is critical for the attainment of socioeconomic and political development including democracy and human rights (Ochieng, 1999). ICTs can empower women in new ways by providing them with access to information and communication (Villa, 2002). ICTs are an indispensable resource for economic, social, political and cultural development (Karelse and Sylla, 2000; Albright, 2002).

Information access is critical for women in many regions because they are key players in the development process. Momo (2000) suggests that women can use ICTs to create, use and access information to improve their lives and participate in the economic, political and social life of their communities and countries at large. She claims that in most cases, women are not aware of the services available to them, nor are they aware that ICTs can considerably widen their access to information to improve their quality of life and contribute effectively to sustainable socioeconomic development. Munyua (2000) found that women do not know where to find information and do not understand its impact when they find it; they are unable to identify the information environment, including the type of information needed, how to access it and whether it is gender sensitive (Karelse and Sylla, 2000). Thus, it is imperative to ensure that women understand the significance of ICTs so that they may use them effectively to access relevant information (Hafkin and Taggart, 2001).

Access to information, however, is the third major concern facing women globally after poverty and violence against women (Primo, 2003). Women, particularly in underdeveloped countries, have limited access to relevant information about health, education, food production and processing (Huyer, 1997), thereby restricting them from participating in the information society (United Nations, 2005a). ICTs have the potential to address the imbalance in women's information access and knowledge (Rathgeber and Adeya, 2000).

The exclusion of women from access to information and ICTs may continue to widen the gap between the 'information haves' and 'information have nots'. There is also a danger that women will continue to lag behind in the development process (Marcelle, 2000). However, Dasgupta (2001) observed that the need for information and access to information for women have not been taken as a serious concern. Huyer (1997; 2004) also observed that access to information is not enough. There are two primary considerations:

1 There is a need to examine the kinds of information women need and can access.

2 The kind of information technology available to women and their impact need to be investigated.

A number of studies have examined the relationship between gender and ICTs but there are few empirical studies on the linkage between ICTs, women, and development information. The purpose of this study is to examine the role of ICTs in women's access to development information in Lusaka, Zambia.

2 Research questions

There are several objectives of this study in its investigation of professional women's use of ICTs to access development information in Zambia, specifically in Lusaka. These include whether these women have access to ICTs and development information, to determine the kinds of information they are using through ICTs, and the barriers to their access and use of ICTS to access development information. Five hypotheses are generated to investigate based upon the research questions, which include:

H1 *Professional women in Lusaka, Zambia have access to ICTs.*

H2 *Professional women in Lusaka, Zambia have access to development information.*

H3 *Professional women in Lusaka, Zambia use ICTs such as radio, television, computer, internet, land phone and mobile phone to access information on health, education, agriculture, environment, gender issues, good governance, water and sanitation.*

H4 *Professional women in Lusaka, Zambia access development information in English.*

H5 *Professional women in Lusaka, Zambia have barriers to relevant content; language that include ICT connectivity; costs of equipment, maintenance and connectivity; knowledge and skills; distance; marginalisation by gender; and time.*

2.1 Definition of key terms

2.1.1 Development

Development refers to:

> "a comprehensive economic, social, cultural and political process, which aims at the constant improvement of the wellbeing of the entire population and of all individuals on the basis of their active, free, and meaningful participation in development and in the fair distribution of benefits resulting therefrom." (Fors and Moreno, 2001)

2.1.2 Information

Information has many definitions but for the purpose of this study, *information* refers to "intelligence and knowledge that contributes to the social, economic, cultural and political well being of society" (Lundu, 1998, p.11).

2.1.3 Development information

Development information in this study refers to information that is required or used for or in development. Examples of such information include information on health, education, agriculture, good governance, freedom, human rights, environment, water and sanitation and gender issues. "It derives from the attempt of people to build up and create a better environment for them" (Olorunda, 2004, p.3).

2.1.4 ICTs

ICTs include a full range of electronic technologies and techniques used to generate, process, access, store and communicate information. These encompass older ICTs such as radio, television and telephone, plus newer ICTs such as computers, mobile telephony, satellite, wireless technology, and the internet (United Nations ICT Task Force, 2003).

2.1.5 Access

Access in this study refer to the capability to physically ingress and use technology as well as being able to make use of the information and knowledge it offers (Primo, 2003; United Nations, 2005b).

3 Women's development information needs

The information needs of women as highlighted by Dasgupta (2001) are highly influenced by diverse factors such as social (*i.e.*, caste, class, urban/rural, literate/illiterate, educated/uneducated); economic (*i.e.*, employed, unemployed, employed in organised sector, employed in unorganised sector, self employed, housewife); and familial norms and hierarchy (*i.e.*, parenting, child care, health, household needs, family planning, legal security, crime and safety, mobility, migration). These factors also influence their information seeking patterns. Furthermore, different categories of women have different types of information needs.

For Momo (2000) women's information needs are recognised in practically all spheres of social life. She therefore, outlined the information needs of women as shown in Table 1 below:

Table 1 Women's development information needs

Social sphere	*Information need*
Education	Basic education or better, training
Health	Hygiene, disease prevention (*e.g.*, HIV/AIDS) and treatment, family planning techniques to lower fertility rates, reduce early pregnancies, decrease infant and maternal mortality
Agriculture	Improved seed selection and cultivation, irrigation, fallowing techniques, post harvest technologies, food conservation
Environment	Environmental disasters and crises (*e.g.*, droughts, floods), techniques for management and conservation of the environment and soil
Law	Human rights and obligations (to protect against all forms of violence such as sexual, physical, social and professional)
Economy	Commercial activities (*e.g.*, international market trends, exchange rate fluctuations, market prices, prices of goods and services and bank transactions)
Professions	Training (*e.g.*, refresher course), seminars, meetings
Society	Formulation of associations and professional groups
Culture	Cultures, vestiges (*i.e.*, of villages, towns, country), traditional practices, modern life
Politics	Participation, expression
Tourism	National, regional and world affairs

Urbis Keys Young (2002) suggests that women's information needs are ever-changing, reflecting the life cycle and changes in personal, financial, social and family circumstances. Consequently, their information needs and information-seeking behaviour tend to be highly situational and often determined by such factors as age, socioeconomic status, level of education, family circumstances and ethnicity among other things.

Olorunda (2004) maintains that women possess needs that vary from personal; health, financial; spiritual; professional to economic. Since women need to sustain themselves and their families, they posses economic information needs and thus require information concerning their social and economic environments. Their information needs for development information and hence economic information needs facilitate socioeconomic and political development.

3.1 The role of ICTs in enabling individuals particularly women access development information

Numerous studies demonstrate that ICTs have the potential to meet the development information needs of individuals, particularly women. Gerster and Zimmermann (2003) demonstrate the potential of ICTs in facilitating the creation, storage, access, management and dissemination of information by highlighting four key features of ICTs:

1 *Interactivity*: ICTs are effective two-way communication technologies. They provide instantaneous transmission of information to and from individuals, organisations and nations at large.

2 *Permanent availability*: Individuals are not limited by time and location to access and use ICTs. ICTs can be accessed at any time.

3 *Global reach*: ICTs can be accessed and used from anywhere in the world by anyone regardless of colour, race, sex, class, culture, religion, language thereby reducing the world into a global village (Munyua, 2000).

4 *Reduced costs*: Many of these ICTs provide easy, inexpensive and rapid means of generating, accessing, storing, disseminating, transmitting and communicating huge amounts of information worldwide (Yumba, 2002).

Consequently, ICTs have been recognised as valuable tools that can be used to access useful information. Primo (2003) states that "technology is…as useful as the information it carries" (p.44). The Republic of Zambia (2005) suggests that the availability of ICT tools is as important as information itself.

Kenney (1995) observed a link between all actors in development, information and communication networks and each of the essential components of sustainable socioeconomic development: health, education and environment; good governance, freedom and respect for human rights; and the creation of wealth. Information that is effectively communicated forms a powerful agent for growth and positive change in individuals and the development process at large. ICTs play a crucial role in providing, informing, disseminating and communicating information and knowledge in virtually all aspects of life and across a broad spectrum of development actors and activities including each of the components of sustainable socioeconomic development (Chapman and Slaymaker, 2002). ICTs not only facilitate the delivery of most basic necessities but also empower individuals, thereby enabling a people-based development approach (Fors and Moreno, 2001).

3.2 Gender differentials and barriers in access and use of ICTs

A number of studies have demonstrated that there are fewer women than men participating in the development, use and control of ICTs. For instance, Marcelle (2000) reveals that 64% of men dominate the computer/internet use in Zambia. The factors contributing to this gender gap are complex and beyond. Primo (2003) and Zulu (2004), however, claim that women often find themselves at a disadvantaged due to technophobe. They view technology as tools for men only. In school, girls are not encouraged to study science and technology, a trend which later results in low level participation of women (Primo, 2003). Thus, Rathgeber (2000) alleges that women's disadvantaged position has nothing to do with male dominance in use of technology or inappropriate design of technologies. Women choose not to participate in the development and use of technology. They are also slow and hesitant in recognising the importance of specific new technologies.

There is no single obstacle that impedes women from using ICTs (Karelse and Sylla, 2000). Zimmermann and Gerster (2003) suggest impediments fall into categories of connectivity, affordability and capability.

- *Connectivity*: Apart from huge connection costs, connectivity depends on infrastructure including equipment, roads, electricity and transportation. These are unaffordable to many developing regions, communities and groups. Geographical distance and poverty limit connectivity in poor and marginalised communities. These may impede women's access and use of technology. Even with connectivity, women may lack the necessary competence to use the information on the internet.
- *Affordability*: ICTs, especially computers and the internet, require huge investment in terms of connectivity, equipment and maintenance. Most women cannot afford the high costs involved in acquiring, installing, and maintaining the technology. Similarly, women cannot afford the high costs of using public access sites due to limited resources as compared to their male counterparts (Hafkin and Taggart, 2001). Although women in the workforce might have the opportunity to access the technology in their workplaces, there may be only one computer and one modem with a dial-up connection that all staff have to share.
- *Capability*: Individuals require some understanding of how networks operate as well as the structure of information itself in order to access and utilise information effectively. Women in developing countries often lack basic literacy, numeracy and computer skills to read, understand the structure of information, compile simple messages, navigate the internet and executive commands in most software applications, particularly as compared to male counterparts. Additionally, they may not know how to search databases, use e-mail or participate in group discussions in order to use these technologies such as the internet. Access to information, therefore, has proved to be difficult for the majority of women and sometimes impossible for the information to be obtained due to lack of skills.

Some information, particularly on the internet, is of poor quality and unreliable due to the fact that there is, in most cases, no editorial process for one to publish on the internet. Therefore, information from different sources may be false, invalid, outdated, poorly written or with many errors. Users require information literacy skills to evaluate the quality and reliability of the information before applying it to real life contexts. In most cases, women lack information literacy skills than men (Hafkin and Taggart, 2001).

- *Language*: Language is another significant obstacle for many women to access information especially on the internet. The information available on the internet is predominantly in English, thereby excluding those who do not understand English. Many women in developing countries do not know how to read, write or speak English. While there has been a considerable increase in information in other languages on the internet over the years with the English content dropping from 95% to 68.5% in 1999 and 2000 respectively (Hafkin and Taggart, 2001), this may not be relevant for women who speak languages still not represented on the internet.
- *Content*: Gerster and Zimmermann (2003) observe that the information needs of the poor differ from the information accessible on most of the existing websites and therefore, lack relevant content. For instance, Primo (2003) contends that gender stereotypes predominate on the internet. Most new information and communication content is of a masculinist rhetoric with sexualised and frequently sexist representation which often exploits women. A survey by the World Bank (2000)

revealed that Africa produces only a fraction (0.04%) of the world's internet content, demonstrating the small amount of information on the internet that is reflective of people, much less women, in Africa.

3.3 Gaps in literature

The research literature demonstrates the importance of individuals to access and use ICTs. Few studies, however, have been conducted that investigate the link between ICTs, women, and development information. There are also very few studies that have been conducted on the importance and relationship between information itself and development (Momo, 2000). There are also few studies that have been conducted on the information needs of women and their access to appropriate information (Huyer, 1997; Dasgupta, 2001; Momo, 2000; Olorunda, 2004). Understanding and satisfying the information needs of women largely depends on identifying what kind of information women need. This can also help in designing appropriate technology for fulfilling these needs.

Thas *et al.* (2007) observed the lack of comprehensive surveys that document all the uses women make of ICT in developing countries. This suggests the need for more surveys to be conducted on the uses women make of ICTs. Morna and Khan (2000) also observed the wide gap between research and action and therefore, call for more studies to be conducted focussing specifically on African women and technology needs.

4 Methodology

The research design was centred on a quantitative methodology, surveying professional women in Lusaka, Zambia on the role of ICT's in their access to development information in both public and private sector institutions. The main data collection instrument employed for primary data was a self-administered questionnaire. Ten private and ten public sector institutions were selected from which a random sample of two hundred professional women was generated. The public sector institutions included: Ministries of Home Affairs, Health, Education, Agriculture, Lands, Finance and National Planning, Energy, Foreign Affairs, Justice and Cabinet Office. Whereas the private sector institutions included; National Women's Lobby Group, Women for Change (WFC), Transparency International Zambia, Human Rights Commission, World Vision, ConcernWorldwide-Zambia, National HIV/AIDS/STI/TB Council, Bank of Zambia, Post Newspaper and Celtel Zambia.

5 Findings and discussion

5.1 Age and level of education of the respondents

Slightly over half of the respondents (50.5%) were between the age of 35 and 44 years old, while 27% of the respondents were between the age of 25 and 34 years old. The analysis further reveals that 21% of the respondents were above 45 years old and only 1.5% were below 25 years. The majority of the respondents were educated up to university (79.5%) and college (17%) levels. Only 3.5% were educated up to secondary level. Thus, most of the respondents were literate.

5.2 Professional women's access to ICTs

Most respondents (99.5%) reported having a radio while only 0.5% of the respondents indicated that they do not have a radio. Interestingly, all respondents (100%) reported that they have a television. The majority of participants reported owning a computer (79.5%) and 65.5% claim that they use the internet and 34.5% of the respondents indicated that they do not use internet. A total of 82.5% of the respondent indicated that they have a landline phone while 17.5% indicated that they do not have a landline phone. 96.5% of the respondents indicated that they have a mobile phone while only 3.5% indicated that they do not have a mobile phone.

Table 2 Professional women's access to ICTs (%)

Response	*Radio (%)*	*Television (%)*	*Computer (%)*	*Internet (%)*	*Landline phone (%)*	*Mobile phone (%)*
Yes	99.5	100	79.5	65.5	82.5	96.5
No	0.5	0	20.5	34.5	17.5	3.5
Total	100	100	100	100	100	100

Due to the fact that each type of ICT (*i.e.*, radio, television, computer, internet, land phones and mobile phones) has its own respective different role and impact in terms of informing and communicating information, respondents were asked about how they use each technology.

5.3 Radio and television

Radio and television are used for accessing a wide range of programming. The findings suggest that professional women use radio to access development information overall. Specifically, they use the radio to listen to the news (25%), followed by programmes on health (19.5%), education (14%), good governance (9%), gender issues (6.5%), environment (6%), water and sanitation (6%) and agriculture (5.5%) (Table 3). Additionally, 4% indicated that they use the radio for entertainment and another 4% use it for other purposes such as listening to religious programmes and making contributions to phone in programmes (*i.e.*, programmes on various contentious issues aimed at drawing public opinions). Television also appears to be one of mostly used medium for accessing news (18%), followed by programmes on health (14.5%), education (14.5%), agriculture (10%), gender issues (4.5%), good governance (12.5%), environment (6%), and water and sanitation (5.5%). Over 12 % of the respondents consider television as a medium for entertainment and a small percentage (2%) use it for other purposes such as watching religious and cookery programmes.

Radio and television play a fundamental role as a medium for providing and accessing development information for the majority of the respondents. This could be attributed to the fact that radio is cheaper, accessible and provides cost effective means of accessing information and communication for development (Greenberg, 2005). Radio overcomes barriers to infrastructure, language and skills to operate and use it (Gerster and Zimmermann, 2003) and is more appropriate and adaptable to the local needs (McNamara, 2003).

> "Apart from the human voice used face-to-face, it [radio] is the greatest vehicle for dissemination of informational content known to humankind. Radio content is cheap to create and cheap to consume, and neither the creators nor the consumers of radio content need to be able to read or write due to the oral nature of radio…radio content can also be transmitted in languages that are purely oral, that have never been put into writing." (Githaiga, 2005, p.1)

The use of radio as a source for development information, is also attributed to the fact that radio is becoming more interactive in that radio can also be accessed through the internet (*i.e.*, radio browsing), storing computerised radio programmes as well as communicating with radio audiences via internet and mobile telephones (Hafkin and Odame, 2002). Television, like radio, is an effective tool for providing and enabling access to information and knowledge to all segments of society particularly women. The ability to instantly transmit information and opinion with great potential and direct to the individuals makes radio and television the most common sources for information in particular information segments.

Table 3 Distribution of respondents to radio and television utilisation (%)

Programmes	*Radio (%)*	*Television (%)*
News	25.0	18.0
Health	19.5	14.5
Education	14.0	14.5
Good governance	9.0	12.5
Gender issues	6.5	4.5
Environment	6.0	6.0
Water and sanitation	6.0	5.5
Agriculture	5.5	10.0
Entertainment	4.0	12.5
Other(s)	4.0	2.0
Missing	0.5	
Total	100.0	100.0

5.4 Computer

While the findings reveal that the computer is used for storage and exchange of development information, the majority of the respondents use the computer for working purposes (20%), followed by storage and exchange of information on health (14.5%), water and sanitation (10.5%), good governance (9.5%), agriculture (7%), gender issues (5.5%), environment (5%), education (4.5%) and entertainment (3%) (Table 4).

Few respondents utilise computer technology for storage and exchanging development information, despite their offerings as reliable, efficient and accurate tools for processing, accessing, storing and exchanging of data usable for all aspects of life. Increased use of computers for such purposes could offer significant changes in the knowledge levels of women on pertinent issues affecting their social, cultural, political and economic lives.

Table 4 Distribution of respondents as per use of computer

Computer use	*Frequency*	*Percentage (%)*
Working	40	20.0
Store and exchange health information	29	14.5
Store and exchange information on water and sanitation	21	10.5
Store and exchange information on good governance	19	9.5
Store and exchange agricultural information	14	7.0
Store and exchange information on gender issues	11	5.5
Store and exchange environmental information	10	5.0
Educational purposes	9	4.5
Entertainment	6	3.0
Missing	41	20.5
Total	200	100.0

5.5 Internet

The internet is also used for a range of purposes (Table 5). The majority of respondents (17%) essentially use internet for e-mail purposes. Eleven percent indicated that they use the internet to search for health information while 8% use it to search for information on education. Another 8% of the respondents indicated that they use the internet to search for information on gender issues and 5% use it to search for information on good governance. Furthermore, 4.5% of the respondents use the internet to search for environmental information and 3.5% use it to search for information on water and sanitation. Only 3% and 2.5% use the internet for entertainment and agricultural information respectively.

Table 5 Distribution of respondents as per use of internet

Use	*Frequency*	*Percentage (%)*
News	7	3.5
E-mail	34	17.0
Seeking educational information	16	8.0
Seeking health information	22	11.0
Seeking agricultural information	5	2.5
Seeking information on gender issues	16	8.0
Seeking information on good governance	10	5.0
Seeking environmental information	9	4.5
Seeking information on water and sanitation	7	3.5
Entertainment	6	3.0
Missing	68	34.0
Total	200	100.0

It is not surprising that the majority of women limit their use of internet to e-mail. Previous research reported that the majority of women in less developed countries use the internet primarily for personal e-mail and e-mail discussion lists for advocacy and networking purposes; other features are too expensive, require technical skills and greater bandwith than may be locally available (Hafkin and Taggart, 2001; Hafkin and Odame, 2002; Primo, 2003). It is also not surprising, then, that the results reveal that few women use the internet to seek development information.

5.6 Landline and mobile telephones

Table 6 reports the findings for landline and mobile telephone use. The majority of respondents (20%) indicated that they use the landline phone for emergency purposes. Over 15% use the landline phone as a source for health information, while 11.5% of the respondents use the landline phone as a source for information on gender issues. Some participants reported using the phone as a source for good governance (7.5%), 6% use it for educational information, and 5.5% said that they use it as a source for information on environment. Others reported using the phone as a source of information on water and sanitation (5.5%) while another 5.5% reported using it as a form of social interaction to overcome isolation. Another 5% reported using it as a source of agricultural information.

Table 6 Landline telephone and mobile telephone usage

Use	*Landline phones (%)*	*Mobile phones (%)*
For emergencies	20.0	22.5
Source for health information	15.5	16.5
Source for information on gender issues	11.5	11.0
Source for information on good governance	7.5	6.5
Source for educational information	6.0	12.0
Source for environmental information	5.5	6.0
Source for information on water and sanitation	5.5	3.0
Other(s)	5.5	5.5
Source for agricultural information	5.0	10.0
Entertainment		3.5
Missing	18.0	3.5
Total	100.0	100.0

Generally, the findings suggest that landline telephony is used as a source for development information. However, there is low utilisation of landline phone as a specific source for educational, agricultural, environment, water and sanitation and good governance.

The majority of the respondents reported using mobile phones for emergency purposes (22.5%) while 16.5% of the respondents use it as a source for health information. A total of 12% said they use it as a source for educational information while 11% use it to find information on gender issues. Ten percent reported using mobile phones as a source for agricultural information and 6.5% of the respondents indicated that they use mobile phones as a source for information on good governance. While 6% use it

as a source for environmental information, only 3% of the respondents use the mobile phone as a source for information on water and sanitation. Over 3% of the respondents indicated that they use the mobile phone for entertainment, 5.5% use it for other purposes including social interaction, storing information, calculation and overcoming isolation.

Overall, the findings reveal that the majority of the respondents have access to development information. They use ICTs such as radio, television, computer, the internet, land phones and mobile phones to access development information on issues including health, education, agriculture, gender issues, environment, good governance, water and sanitation.

5.7 Language

The findings regarding the language in which development information is accessed are depicted in Table 7. Respondents use English to access development information on radio (44%), television (44%), computer (66%), internet (65.5%), landline phone (26.5%) and mobile phone (25.5%). The findings also suggest that development information is accessed in Zambian local languages including Bemba, Njanja/Chewa, Lozi, Tonga, Kaonde, Luvale and others. Bemba, is mainly used to access information on radio (10%), television (9.5%), landline phone (10%) and mobile phone (12.5%). Only 2.5% use the Bemba to access information on the computer. Nyanja/Chewa is used to access information mostly on television (13.5%), followed by mobile phone (12%), landline phone (11.5%), radio (11%) and computer (4%).

Table 7 Language in which development information is accessed through various ICTs

Language	*Radio (%)*	*Television (%)*	*Computer (%)*	*Internet (%)*	*Landline phone (%)*	*Mobile phone (%)*
English	44.0	44.0	66.0	65.5	26.5	25.5
Bemba	10.0	9.5	2.5	0	10.0	12.5
Nyanja/Chewa	11.0	13.5	4.0	0	11.5	12.0
Lozi	7.5	9.5	1.5	0	8.5	13.0
Tonga	7.0	8.0	2.0	0	8.0	7.5
Kaonde	7.0	7.5	1.5	0	7.0	9.5
Luvale	10.0	8.0	2.0	0	7.5	9.5
Other(s)	3.0	0	0	0	4.0	8.0
Missing	0.5	0	20.5	34.5	17.0	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Respondents also reported accessing information by mobile phone in Lozi (13%), followed by television (9.5%), landline phone (8.5%), radio (7.5%) computer (1.5%) and internet. Tonga is used to access information on television (8%) and landline phone (8%), followed by mobile phone (7.5%), radio (7%) and computer (2%). No respondents reported using Tonga to access information on the internet. Kaonde is used to access information on the mobile phone (9.5%), followed by television (7.5%), radio (7%), landline phone (7%) and computer (1.5%). Luvale is used to access information on the

radio (10%), followed by mobile phone (9.5%), television (8%), landline phone (7.5%), and computer (2%). None of the respondents reported having use Zambian local languages to search for information on the internet.

In general, older ICTs such as radio, television and landline phone, and newer mobile phones are used to access information in both local and English languages. English is the main language through which information is accessed for computers and the internet. With newer ICTs such as the internet, individuals are limited to the English language to access information which suggests that those who do not know English find it difficult to access information on the internet.

5.8 Barriers to ICT access and use

Professional women in Lusaka identified barriers to ICT access and use (Table 8). The major barrier to access and use of ICTs is the high cost of equipment, maintenance and connectivity (26%), followed by limited knowledge and skills for using ICTs (22%). A further 16.5% of the respondents stated they lack adequate time to use ICTs while 15.5% face the problem of limited connectivity. Nine percent of the respondents perceive a lack of relevant content and 4.5% of the respondents reported problems with language, distance (4.5%) and gender marginalisation (2%).

Table 8 Barriers to ICT access and use

Barriers	*Frequency*	*Percentage (%)*
High costs of equipment, maintenance and connectivity	52	26.0
Limited knowledge and skills to use ICTs	44	22.0
Inadequate time	33	16.5
Limited connectivity	31	15.5
Lack of relevant content	18	9.0
Language barrier	9	4.5
Distance	9	4.5
Marginalisation by gender	4	2.0
Total	200	100.0

Many women lack disposable income to pay for ICT access because they tend to give more attention and higher priority on household needs such as food, health, education and clothing other than information. ICTs often do not carry relevant content that meets the information needs of women in a usable form. Hence, they remain of little interest and value to the majority of women. Marginalisation of ICTs as not designed for women's information needs, also discourages women from accessing and using ICTs.

Effective and innovative use of ICTs to access development information requires information literacy skills, ICT skills, literacy and language. Information literacy pertains to the ability to recognise the need for information, and the skills to locate, evaluate, access, communicate and use information in varied contexts. Women often lack this skill including the skill to use ICTs (Primo, 2003). Kirkup (2002, p.11) states that "access to information is a useless resource if you don't have the skills to evaluate and use it". Literacy also plays an indispensable role in enabling access and use of technology and

information. Literacy is a basic tool for communication and learning, for acquiring, sharing and exchanging information and knowledge (Batra and Grove, 1994). It creates quest for information, self learning and understanding, thereby generating the demand for information and communication services.

Language also limits women to access ICTs. Because the languages that dominate particularly on the web are international languages such as English, French, Chinese, German and Japanese, many women are not familiar with them. Furthermore, since access to most information and communication facilities is far away, and because of the multiple roles and heavy domestic responsibilities, mobility, distance and time tend to be some of the barriers for women to use ICTs (Batra and Grove, 1994).

5.9 Other sources used to access development information

Respondents were asked whether they use other sources to access development information apart from radio, television, computer, landline and mobile phones (Table 9). Print newspaper (30%) was the most common source reported, followed by libraries or information centres (29%), friends and families (20.5%), women's groups (10.5%) and church (10%).

Table 9 Other sources of development information

Other sources of development information	*Frequency*	*Percentage (%)*
Libraries or information centres	58	29.0
Friends and families	41	20.5
Print newspapers	60	30.0
Church	20	10.0
Women's groups	21	10.5
Total	200	100.0

The findings above concur with the Republic of Zambian (2005) policy report that claims that access to information is mainly through physical means (*e.g.*, libraries or information centres, print media, radio and television) because access through networked systems (*e.g.*, internet and mobile phones) is very limited, because of limited telecommunications infrastructure and high access costs for many consumers. Libraries or information centres have long being used as some of the major sources of information. They may not, however, be more convenient for women in terms of mobility and time. With ICTs such as radio, television, mobile phones women can access information directly from their homes or wherever they are.

5.10 Importance of accessing development information and ICTs

Respondents were asked to rate the importance of accessing development information. The majority of respondents (86%) indicated that it was very important for them to access development information. Thirteen percent indicated that it was fairly important, and only 0.5% reported that it was not at all important. An additional 0.5% said that it was neither important nor unimportant for them to access development information.

When asked whether it was important to have access to ICTs, the majority of the respondents (90.5%) reported that it is very important for them to have access to ICTs, while only 1% and 0.5% of the respondents consider access to ICTs as neither important nor unimportant and not at all important respectively. Eight percent of the respondents consider access to ICTs as fairly important.

The importance for women today to have access ICTs cannot be overemphasised. The gains are numerous, as highlighted in this study. ICTs have the potential to meet the information needs of women in all aspects of development including social, economic, political and cultural.

6 Conclusion

The findings of this study suggest that professional women in Lusaka, Zambia have access to both old and new ICTs such as the radio, television, computer, internet, landline and mobile phones. Generally, the increase in access and use of ICTs among professional women suggest that these technologies are increasingly being recognised as vital tools for economic, social and political empowerment. The trend can also be attributed to the fact that professional women are literate and can afford an extra income for ICT access and use.

It also appears that professional women are making use of these ICTs to access development information such as information on health, education, agriculture, gender issues, good governance, environment and water and sanitation. The internet, while an important source of development information, is mainly used for e-mail purposes. The internet is used mainly for e-mail purposes which limits women's access to inexpensive, useful information on important topics. In spite of the many gains of having access to computer in as far as accessing, storage, processing and exchanging information is concerned, the findings suggest that the majority of professional women use the computer largely for work purposes. Landline and mobile phones are largely used for emergency purposes.

The women in this study access information in English as well as in their local languages. Many access information in English using different types of ICTs. In as much as language tends to be a barrier, in some cases, particularly using the internet, access is a minor problem for professional women. Increasing use of both local language and English are mainly associated with older ICTs including radio, television, landline phone and to a lesser extent, newer mobile phone.

In regard to barriers to access and use ICTs, the majority of the participants face high costs of equipment, maintenance and connectivity; limited knowledge and skills; inadequate time and limited connectivity. Of these barriers, the high cost of equipment, maintenance and connectivity was most commonly reported, followed by limited knowledge and skills, inadequate time, limited connectivity, lack of relevant content, language barrier, distance and marginalisation by gender.

Results from the field further suggest that women use other sources to access development information. According to the findings, the majority of the respondents use print newspapers as alternative sources of development information followed by libraries or information centres, families and friends, women's groups and church.

The majority of the women in this study recognise the importance of access to ICTs and development information.

7 Future research

This study was limited to professional women in Lusaka, Zambia. There are several areas for further research involving women in rural areas and in other countries, regions, both within Africa as well as outside.

Another area for future research is in the area of information needs. Future research into examining the information needs of women and their views on the available information have seldom been studied as a research topic or as a critical issue. A similar observation has been noted by other authors such as Huyer, (1997), Momo, (2000) and Olorunda (2004). Therefore, there is need to urgently study the information needs, women's access to appropriate information including the information seeking behaviour of women of diverse situations and backgrounds.

Perhaps more importantly, there is a need for more case studies on the importance of information and ICTs for reducing poverty, and other development issues, particularly as they relate to women. The impact of ICTs needs to be analysed not only by using quantitative but also qualitative approaches. Research in this area would assist in identifying the potential of ICTs for women in various aspects of life. It would also assist planners and implementers to design, evaluate and make better uses of ICTs for women. In particular, African women have their own special needs; therefore, there is need for more studies, specifically focussing on African women and ICTs.

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