MA MAJOR RESEARCH PAPER

'The Gender Dimension of Communication Technologies in Uganda: Documenting ICTs in the Daily Lives of Women'

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List of Abbreviations

APC	Association for Progressive Communication
DFID	Department for International Development - UK
DOT Force	Digital Opportunities Task Force
EASSy	East African Submarine System
EU	European Union
G8	The US, Canada, Britain, France, Germany Italy, Russia, Japan
GNP	Gross National Product
GSM	Global System for Mobile Communication
HIVOS	Humanist Institute for Cooperation with Developing Countries - Netherlands
ICT	Information Communication Technology
ICT4D	Information Communication Technology for Development
IDRC	International Development Research Centre
IFAD	International Fund for Agricultural Development
Isis-WICCE	Isis Women's International Cross-Cultural Exchange
ISPs	Internet Service Providers
ITU	International Telecommunication Union
KIC	Kubere Information Centre: WOUGNET's rural access program, Apac
LRA	Lord's Resistance Army
MDGs	Millennium Development Goals
MTN	MTN Group – South African based telecommunications provider
Me2U	Text messaging cellular service allowing transfer of airtime funds
NEPAD	New Partnership for African Development
NGOs	Non Governmental Organisations
PoPs	Points of Presence
VPOs	Village Phone Operators – Grameen Phone USA
SMS	Short Message Service – text messaging for mobile phones, using keypad
SST	Social Shaping of Technology
UCC	Uganda Communication Commission
UPE	Universal Primary Education, instituted in 1997 in Uganda
UTL	Uganda Telecom

VSAT	Very Small Aperture Terminal – for satellite transmission of digital data
WOUGNET	Women of Uganda Network
WSIS	World Summit on the Information Society
WTO	World Trade Organisation

'The Gender Dimension of Communications Technologies in Uganda: Documenting ICTs in the Daily Lives of Women'

Enhancing Knowledge Exchange: A member of the *Obang Atwero* farmwomen's group explains how her access to information has contributed to better crop yields.

Waiting at Masindi Port: A small ferry takes you to Apac – when it comes. In northern Uganda, a lack of infrastructure such as paved roads, bridges, electricity and phone grids contributes to the region's historic isolation from other parts of the country.

1. Introduction

> 'At the same time that Northern countries face saturation
> of their own markets the African region has become the fastest
> growing telecommunication market in the world'.
>
> (Acacia Handbook 2005 **Page**).

The field of international and development communications entered a new chapter

with the emergence of digital information and communication technologies. Information

and communication technologies (ICTs) have long been a source of study for theorists

and practitioners of international development, starting with study of the telegraph, fixed

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phone, and radio. However with the advent of digital technologies, the size of devices has shrunken while simultaneously their power has expanded.

International development is a huge and contentious field, considered by some to be the source of improving the quality of life for billions around the world, considered by others to be exploitive, self-serving and destructive to culture, land and identity. For many years, stretching back to the development of the telegraph and radio, writers and thinkers – most of them schooled in Western academics - have lauded the potential of ICTs to bridge rural people to urban, enrich economies and expand poor people's access to markets. The digital age has re-energized ICTs for development, they have been auditioned to strengthen many sectors in developing countries – education, infrastructure, health, agriculture, and international trade among others. Practitioners of ICTs in development – especially those in multilateral aid agencies and the non-profit sector, are experimenting with using ICTs to 'enrich and diversify' Third World economies. Private sector players such as Nokia, Microsoft and Motorola are quickly becoming the drivers of this change, entering into partnerships with NGOs and large aid agencies, and acting as developers, suppliers and managers of ICTs across Third World countries.

This paper discusses one segment of the development communications paradigm, the role of information and communication technologies (ICTs) in relation to gender. One focus that demands greater scrutiny is gender. It's important to ask who is benefiting the most from using ICTs in development. For women in particular, using and accessing communications is more difficult than it is for men, a situation that authors of gender and technology studies have coined 'the Gender Digital Divide'. This area of research is beginning to show that because women around the world have lower incomes and less education than men and participate less in household, professional and community

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decision-making (Sciadas 159-162), women's opportunities to use information and communication technologies (ICTs) are also less. Gender Digital Divide authors express fears this will stymie their economic and social circumstances in a fast digitizing world.

What do ICTs really do for people? Can they really deliver the promises expressed by proponents of ICTs in development? Can many of the social problems endemic to poor countries – extreme poverty, inadequate nutrition, negligible job prospects – be solved by ICT intervention?

Although ICTs may be beneficial to help bring developing countries out of poverty, North America, Western Europe, and increasingly East and South Asia are the hubs of ICT development, corporate ownership and manufacture. Statistics on communication infrastructure across Africa record communication penetration rates in the single or teen percentiles[1] and the region has no substantial digital development or manufacturing sectors. Despite this, whereas industrial countries are now seeing consumer saturation of ICTs, the sub-Saharan region represents the fastest growing consumer market for these products in the world (Acacia Handbook 2005).

Globalization plays a large role in Northern countries extending their economic reach into developing countries. Most telecommunication giants are situated in Northern countries but the labour used to manufacture these goods, and even the consumers who buy them, are increasingly found in developing countries. The anti-globalization movement argues this is an extremely unequal relationship, and though it provides jobs and increases spending power of consumers in developing countries, the lion's share of profit and control return to Northern interests [Ya'u 101].

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[1] see The Acacia Atlas 2005 and the ITU: Country case studies 2007

If ICTs reflect a global economic imbalance, can they really enrich democracies, create economic opportunity and be truly useful for the poorest citizens around the world? There has been a growing awareness from critical communication and international development theorists that far from being symbols of shared wealth and democratizing information systems, ICTs have become the conduit of a lengthening divide between the technology rich, and the technology poor.

However it is also important to question this model. How is success defined? As the world invents bigger, faster more expansive technology, and globalization links economies with increasing speed, it is increasingly important to trace the positive and negative effects of communication technologies as they make their way across the globe and into the hands of people whose poverty makes securing even basic necessities a daily struggle.

This paper investigates how ICTs are used by farming and merchant women from Apac, a small rural district in northern Uganda. Apac is an agricultural district, subsistence farming is the most common occupation but guerrilla warfare has made this basic economy difficult and dangerous at times. The district has few roads or other public amenities. The people of Apac are part of a country that is rapidly reforming its communications environment, and they live in a district where non-governmental organisations (NGOs) are increasingly using ICTs to deliver their programs. Old ICTs such as radio are very numerous throughout Apac, and new ICTs such as mobile phones and computers are quickly entering the district. In an area with little infrastructure and no medium or large scale industries, new ICTs are impacting people in ways that have few comparisons. It is an environment in which old and new are fast colliding.

In my research I addressed the following question: In Apac, how do ICTs affect women's lives? Within this main question I examined a sub-set of issues. What are women's communication needs and can development organisations use ICTs to help their target populations improve quality of life? Can ICTs actually increase women's income and improve their access to useful information? Do ICTs enable women achieve more agency in the community and if so how? In my journey to find answers, I used a combination of primary and secondary research, including a case study conducted in the field, to investigate how women in Apac use ICTs, and if any economic, political or social barriers impede their use.

2. <u>Working Concepts</u>

2.1 Modernization Theory

There is significant literature on ICTs in development, stretching back to the late 1950's. The Modernization Theory introduced by Daniel Lerner in his 1958 book *The Passing of Traditional Society: Modernizing the Middle East* is usually considered the first authoritative text to focus communications in developing countries. Lerner considered mass media a disseminator of modern ideas and values, and his theory was a flagship of the dominant development agenda that characterized post-colonial thinking in the West (Braman 134)[2]. According to Leslie Steeves, Lerner's thesis was enthusiastically received by the industrialized Western nations. In her paper 'Development Communication as Marketing, Collective Resistance and Spiritual Awakening: A Feminist Critique' (2003) she argues that its basis in liberal political theory judged science, individualism and economic growth as the ultimate value of success (Steeves, 2003,

[2] This 'dominant development agenda' so called by Braman is a critical reference to Western powers continued influence in the ex-colonies on a non-state level

230). While these qualities celebrated the advancements of Western civilization, they made the rest of the world appear wretched by comparison.

The Modernization thesis contended that development was a singular, one-way progression, from agricultural to industrial, from non-democratic to democratic, from poor to rich. It used the development of Western Europe as a gold standard for this model, and was situated within the political context of the Cold War; critics of Modernism contend it was a tool of economic development to halt the international spread of Communism (McDowell 8). Modernization also relied on dichotomies, pioneering terms like developed/undeveloped, North/South, rich/poor, high/low, traditional/modern, bottom up/top down (Braman 113, Tehranian 103).[3]

One central tenet of Modernization was Lerner's proposal that mass media such as newspapers, radios and television would deliver information to people, providing what Sandra Braman called a 'missing link in the development chain' (Braman 134iii). Yet by the late 1960's, Modernization had fallen out of favor because it became increasingly clear that socioeconomic structural constraints diminished the power of mass media in overcoming development problems (Braman 142). Media was heavily structured around state control and private interests, biasing its content and excluding pluralistic opinion.

The argument against Modernization is still widely upheld by critical theorists and has been streamlined into critique of newer international development projects – neo-liberal reforms, media imperialism and even participatory development (see Boyd-Barrett 1998, Servaes J. 1999, White 2004). Some theorists compare the communication systems in developing countries to 'information imperialism' where the control of knowledge is the key to power (Tehranian 94iii, Ya'u 107)

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[3] While this paper continues to use some of these terms, the reader should keep in mind that alternative references are needed, ones that acknowledge a far wider spectrum of success in development.

Such criticisms led to the downfall of Modernization's popularity in the late 1960's and the emergence of the Diffusion of Innovations theory (Melkote 134-135). Although Modernization theory is no longer in active use, its terminology remains, indicating that many of its underlying principles – especially the focus on industry and commerce – still dominate much of international development today.

The economic potential of using fixed line telephones for international development began in the 1960's, and with the creation of the International Telecommunications Union (ITU), development communications was pushed into the spotlight (Singh 197). After a brief decline in the early 1980's, Development Communications literature was made popular again in the late 1980's with the development of new forms of communications - wireless telephony and the expansion of FM radio stations especially (Tehranian 86). In the early 1990's the term 'Digital Divide' came into use. This paper discusses Digital Divide literature, and its consequences for the women of Apac, Uganda.

2.2 Defining the Digital Divide

The term Digital Divide was invented in development communication literature to express the North's dominance and control over information technologies (sometimes called the 'have' countries), and the South's barriers to access (sometimes called the 'have-not' countries). Reaching its height of use in the mid-1990's, the Digital Divide initially referred to technical access only. It later came to encompass social access as well including education, content and socio-cultural aspects (Shade 108). Much discussion about the Digital Divide has focused on getting ICTs into the hands of the poor, using ICTs for educational opportunities, expanding bandwidth and making

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technologies affordable to Southern people. The African E-Index explains that 'a certain threshold of national communications infrastructure is needed for the positive network effects of ICTs to multiply through national economies' (African E-Index 2005 8ii) It goes on to argue that 'certain countries or regions may fall behind...thereby being permanently excluded from the numerous potential economic and social benefits of ICTs.' (ibid.) In response to concerns about the Digital Divide, there has been significant action to reverse this trend, everything from grassroots NGOs like the Association for Progressive Communication (APC), to bilateral institutions such as the IDRC, DFID, or HIVOS, to multilateral initiatives such as the Digital Opportunities Task Force (DOT Force) and the World Summit on the Information Society (WSIS).

Digital Divide literature quotes the statistics of communication distribution around the world to make its case. According to the Acacia Atlas, fifty-five countries account for 99 percent of global spending on information technology (Human Development Report 1999, 62). Infrastructure in most developing countries is often unreliable, while connection costs are very high. In many landlocked African countries, average monthly Internet connection can be one hundred times higher than in developed countries (Acacia Atlas 14).

The rapid advance of ICTs around the world is being propelled by large players in the strongest economies, namely multinationals like Nokia, Microsoft, Cisco systems and governing bodies like the World Bank and the ITU. Trade concessions and intellectual property laws are being constructed by inter-governmental bodies such as the WTO and the IMF. The economic interests of transnational corporations, donors and governments are also responsible for rapidly expanding media and information technologies, yet this often overlooks the majority of populations, including women, the poor and the

marginalized (Wilkins 47). International trade and investment commonly increases wealth for the most powerful players, with smaller economies losing out. Morales and Melles warn that economic systems in developing countries could become dependent on transnational corporations for supplying ICTs, while majority populations remain left out of the profits of this relationship (Morales and Melles 6). The Internet, mobile phones, satellites, radio, television and other ICTs transmit financial transactions through an integrated system of binary code, fibre optics, radio waves, satellite and receiving towers. ICTs are also the tools and storehouses of vast, ever increasing archives of information and ever-increasing bandwidth demands. The high cost of technology and infrastructure, and the associated profit motives characterized by corporate investment in ICTs, all point to favouring powerful nations in trade and investment, while developing countries are relegated to a 'have-not' position.

Yet there is also severe criticism of how the Digital Divide presents developing countries. Yunusa Z. Ya'u argues that the Digital Divide is expanding not closing, and that tactics being employed to close the gaps amount to information imperialism (Ya'u 100) This criticism frames the Digital Divide as techno-centric, with technology as a central indicator of advanced societies and robust economies, and information and communication technologies as conduits of this progress.

When investigating this literature, it is important to bear in mind that the Digital Divide is only the latest in a long line of industrial contrasts, between the material wealth of Western countries, and the material scarcity everywhere else. Critics of Digital Divide theory postulate that the Digital Divide reflects the Modernization paradigm, creating another dimension of lack which can only be satiated by consuming foreign goods (Ya'u 100, Shade 115). Oscar Gandy Jr. postulates that the Digital Divide is actually a model of

promoting consumption, where ICTs form a widening distinction between citizen and consumer (Gandy 448).

An alternative posed by Digital Divide critics is to focus on the surrounding social factors that divide poor from rich such as economic, educational and infrastructural divides. Yunusa Ya'u proposes that the Digital Divide is part of a larger social divide, which cannot be eliminated in isolation of this wider divide (Ya'u 118) This approach would treat ICTs as corollaries to the development process, as accessories to deeper social and economic shifts in society. In this approach, the focus is on who uses ICTs and how instead of focusing on ICTs themselves to propel development forward.

2.3 Defining the Gender Digital Divide

Gender is one problematic dimension of the Digital Divide because gender inequality in ICT use is more difficult to measure than standard indicators such as income level or number of people per household. Whereas the earliest definitions of the Digital Divide were geographic and technical, the Gender Digital Divide is part of a wider social examination that includes socio-economic factors, rural-urban divides, and cultural and political affiliations as sources of influence in development outcomes. One pervasive trend the Gender Digital Divide has found is that men continue to own and use ICTs more than women regardless of culture, level of wealth or level of education (Sciadas 136). The Gender Digital Divide was first referenced by the Association for Progressive Communication (APC) at the 1995 Fourth World Conference on Women in Beijing[4]. Writers such as Nancy Hafkin, Sophia Huyer, Leslie Steeves, Yunusa Ya'u and Karen Wilkins among others have all contributed significant work to Gender Digital Divide

[4] See 'Gender and Information Technology' (1995) http://www.apcwomen.org/resources/policy/gender-ict-unwcw.html

writings. Common to their work is the argument that gender must be addressed in order to remedy the larger Digital Divide, and that gender is a cross-cutting dimension of infrastructure, cost and policy issues that contribute to the larger Digital Divide. A common thread in this literature is that gender parity needs to be maintained within ICT development in order to improve other development indicators – health, education, food security and economic prosperity (Sciadas 137).

> 'The so-called digital divide is actually several gaps in one. There is a technological divide – great gaps in infrastructure. There is a content divide. A lot of web-based information is simply not relevant to the real needs of people. And nearly 70 percent of the world's websites are in English, at times crowding out local voices and views. There is a gender divide, with women and girls enjoying less access to information technology than men and boys. This can be true of rich and poor countries alike.'
>
> Former UN secretary General Kofi Annan 2002[5]

While the Digital Divide is relatively simple to measure geographically, the Gender Digital Divide is more difficult to measure. ICT use is often analysed in terms of access points, such as how many public pay phones exist in a neighbourhood, or how many ICTs exist in a home. However this overlooks gender disparities in who uses public payphones or who uses an ICT in the home. The telecom sector often measures the success of their infrastructure penetration based only on the density of their networks, ignoring the profile of the end user. Yet for women, equal access to communications is not a sufficient indicator of equal use. Even when free access is provided to women, they may continue to use ICTs less due to their lower social status and greater responsibilities in the home, a fact that is overlooked and under appreciated by the telecom sector and many development initiatives (Sciadas 169).

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[5]Speech to the United Nations Information and Communication Technologies Task Force 30/9/02
http://www.unicttaskforce.org/perl/documents.pl?type_id=4

Various studies indicate that the Gender Digital Divide exists worldwide, but generally it becomes more pronounced in poorer countries, where gender roles are more strictly defined, and girls and women's education lower (Odedra-Straub 1995, 256-277, Leahy et al 2003, 145). This disparity limits women's options and opportunities for using ICTs to improve their economic and social circumstances. Uganda's sparse communication networks, combined with formidable challenges in improving literacy and education create a stark picture of the Digital Divide's effects in the country, and women's place within it.

While there is a fair amount of information on the Digital Divide in Africa[6], the Gender Digital Divide is a newer term, lacking a standard definition. Recognizing and addressing gender issues in development communication is made difficult because documentation of gender disparities and gender-based poverty is not well documented in standard statistics (Steeves 1993 P220, Sciadas P137). This means that experts must rely on a wide variety of sources and data which is oftentimes isolated or disconnected from each other.

One contentious debate in development communications is how information plays into progressive development. Developing countries often have extreme disparities between men and women, where women earn less and have their movements severely restricted by family and society. Yet around the world, women are also responsible for harvests, homes and child rearing. To accomplish their responsibilities and be aware of their rights, women are especially in need of information to help them gain power and agency in their communities. But precisely how this can be accomplished is controversial, often because many theories of ICT and gender in development is accused of being

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[6] See *The Acacia Atlas* 2005 (IDRC), *African E-Index* (2005), *Rowing Up Stream* 2002 (Levey and Young) and *From the Digital Divide to Digital Opportunities: Women in the Information Society*, (Sciadas (2005))

exogenously defined through Western intervention, prescriptive, neo-imperialist or out of touch with the basic everyday concerns of women in the Third World (APC/WNSP p.ixx).

Gender Digital Divide writings have all articulated problems like a noticeable absence of women internet users in cafés, a dearth of trained professionals in science and technology jobs, or the barriers women face engaging in e-commerce. Sophia Huyer and Nancy Hafkin are particularly vital contributors to the field, being some of the very few to have presented statistical data on gender and technology use across countries (Sciadas 135). All these writers give weight to the urgency of putting women at the front of ICT use, not only for improving development, but for enabling them to contribute equally to society.

The Gender Digital Divide is the gap in communication access between men and women and is more a social and economic concept than the larger Digital Divide. It is of global significance, and almost all countries around the world suffer from some level of gender disparity in ICT use, from the tiny to the extreme. Such divides exist between countries, but just as easily between men and women in a household due to imbalance between income and/or education. Sub-Saharan Africa produces particularly dismal results; Internet use across the sub-continent is uniformly low. Excluding South Africa, women generally comprise less than 10% of computer users[7].

In response to pressure from the World Bank and the International Communication Union (ITU) in the early 1990's, many African governments fast tracked their communications sectors, creating ministries, policies, deregulating and privatizing their systems in order to reform their networks. Development organizations of all sizes have

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[7] Mauritius is an exception to this, being a landing point for undersea fibre optic cables that link Africa to Asia and Europe. This gives Mauritians, and the many tourists who visit, low cost high-speed Internet access (Acacia Atlas 14).

incorporated ICT programs into their mandates, and conferences such as WSIS indicate that the matter has the attention of governments, private sector, and civil society.

Generally however these attempts tend to overlook women and though gender may be mentioned in international communication agreements and national policies, they are usually minor clauses, or take years of struggle to be passed (Mbabazi, P. et al 2005). Many information and communication technology for development (ICT4D) programs have yet to incorporate gender into their mandates on a sustained level, a situation that if left unattended could aggravate an already wide gap in technology use by gender.

> 'Development must begin with women because women provide the best vantage point for evaluating development for at least three reasons: women are vital to the reproduction and survival of human societies; women's work outside of the home is varied and wide-spread, and antipoverty programs should prioritize the poorest group, usually women.'
> (Steeves 1993 221)

If actively participating in society is a dimension of human development, then enabling the poor to engage in public process and advocate for their rights is one way to reduce poverty. Yet poor or disadvantaged groups, including women, often lack the means to influence power in government and corporations. As caretakers of the home, Ugandan women experience inequalities of power from the household level to the national level, where they are commonly underrepresented in legislative bodies, organs of government and local political structures8. The poorer women are, the less control they have over their time, their household property and their income, and the less access they have to information, and health services (Mbabazi et al 2005). Compared to men, women tend to be less educated, more limited in their options and paid less (Sciadas 135). The

characteristic user of the Internet and other ICTs, for example, is often young, male, well-educated, relatively wealthy, tends to live in the capital city of their country, and is likely to be a member of the dominant ethnic group of their country (African E-Index 8)

Despite this, ICTs in development also pose great ironies, which prevent entrenched beliefs on either side of the Digital Divide debate. A report called *the Public Voice* sponsored by the International Development Research Centre (IDRC) and Bellanet recommended that in order to start closing the Digital Divide on-line, citizens in developing countries need to have a 'wider availability of translation services, development of wireless networks, better content and free or open source software' (The Public Voice 2001:6 from Shade 112iii). Central to this paper is the argument that they can and should be used for social good, as tools of witness, activism and agency. Whereas the fact that women may use cell-phones less than men, or have less money than men illustrates continued gender disparity along economic, educational and socio-cultural lines, I propose that it is more fertile to explore how women in Apac use them in new ways, to create their own content, as tools of dialogue, sharing experience, sharing knowledge, and gaining agency. This is an exercise in social development. But as *The Public Voice* cautions addressing technical gaps is also necessary to foster locally relevant content and create new tools of dialogue, sharing and agency.

2.4 The Social Shaping of Technology

In order to offer theoretical analysis of the Gender Digital Divide, this paper employs the Social Shaping of Technology (SST) theory. SST was introduced in the mid 1980's in a book of the same name, as an alternative to the Modernization Theory. MacKenzie and Wajcman's thesis contended that Modernization was too technologically

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determinist, leaving no room to reflect on how culture and society influences the development of technologies, nor giving social factors their due importance (5-6, 430, 432, MacKenzie and Wajcman 1999). Instead, SST theory questions technology's impact on society, and society's ability to influence the trajectory of modern industry and invention. SST's central concept is that technologies such as ICTs are developed according to a series of choices made by their developers and their users, and that the resulting invention will be an accumulation of these choices - in essence a social innovation (Williams and Edge 1996). SST also questioned the validity of the Modernization paradigm itself, contending that industrialization has come at a terrible price, and that Western models of development were problematic in the non-Western context (Winner 1986, Ya'u 2005).

SST emphasizes that particular social groups and forces will shape technology to their own uses, resulting in various different social and technology outcomes (Williams 1996). Determining *who* shapes technology and *how* means that engineers, politicians, policy makers, economists and users themselves are all actors in influencing technology invention and evolution. So it follows that in Uganda, state policy, geography and end users all determine the shape and effects of ICTs. Reflecting on this model, Robert A. White suggests that new conceptions of communications are needed, ones that allow 'participating, dialogical, non-directive and horizontal' exchange (White 17iii). The articulation of space around ICTs would therefore be central to reconfiguring ICT as communal, group oriented tools.

While SST was developed for industrial and post-industrial societies, it is interesting to explore how the theory fares in a cross-cultural context and especially in a gendered context. SST theorists such as Wendy Faulkner, Cynthia Cockburn and Leslie

Steeves argue that technologies are gendered reflections of their designers and users, with men inventing and owning the majority of ICTs and taking the majority of jobs in science and technology[9].

It's important to note that SST has generally been applied to Western industrial or post-industrial society, with very little mention of the theory in developing country literature. While gendered analyses of SST theory has been covered numerous times most notably in the works of Wendy Faulkner and Sherry Turkle (see Faulkner 2004, Turkle 1988), to date, this paper cannot cite literature that covers a gendered SST analysis of communications in a developing country.

Yet how technologies are evolving is still an important question in developing countries. This is precisely because the technologies remain largely Western imports, and telecom companies are mostly multinational entities with international interests. It is worth noting that while the Gender Digital Divide is more severe in less developed countries, it is nevertheless apparent to some degree across every country studied, regardless of people's education, GNP or ICT penetration rate[10]. Furthermore, the Social Shaping of Technology has opened up policy issues that had been obscured by the technological determinism common to Modernization (Williams and Edge 858)

2.5 The Evolution of African Communications

Beginning in the 1990's development thinking underwent some radical shifts. This was due in part to the rise of neo-liberal trade and development restructuring associated with the IMF, the World Bank and the Washington Consensus. Across Africa, development organisations began moving away from state sanctioned work to small-

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[9] see Faulkner (2004), Turkle (1988), or Cockburn (1999) from MacKenzie and Wajcman (1999)
[10] see Huyer, S. et al (2005) *From Digital Divide to Digital Opportunities: Women in the Information Society*

scale initiatives, shifting their partners over to NGOs to reflect more grassroots priorities. The language of large scale development programs began to employ previously fringe wording associated with civil society. Today, terms like 'grassroots', 'participatory' and 'empowerment' have become the norm even amongst multilateral development agencies (Ya'u 2005). However the wider use of such terms may not reflect their original meaning. Some writers have argued that the same technology-based interventions of Modernization continue to be used by development agencies despite being couched in the politically correct lingua franca of participatory methodologies or micro-finance initiatives (Braman 138, Steeves 1993, 236, White 249)

This shift also defined a new era of privatized development, one in which the social responsibilities of Southern governments has been subordinated to international actors and the private sector (Waisbord 148, Thussu 77 and Ya'u, 101). This restructuring has often transferred responsibility to foreign interests, eliminating or reducing the role of the state in governing everything from utilities to infrastructure to agricultural inputs. These critics contend that while grassroots and participatory language now reflect the status quo in the lexicon of development language, commitment to their original values of democratized action and local participation has been tenuous. Critics have argued that though multilateral development programs put social commitments at the forefront of their agendas, they have prescriptive economic demands that actually erode the capacity of local people to act for their own development needs (Huesca 214, Ya'u 108, Nyamnjoh 18).

While South Africa is edging into a major economy and developing its manufacturing sector, the rest of the Sub-Saharan region is almost entirely dependant on trade from overseas to acquire their mobile phones, computers, Internet infrastructure and

other technologies[11]. This doesn't bode well for African nations' ability to negotiate social priorities in their communication systems. Nevertheless, as the Acacia Atlas indicates, African telecommunications is booming. Growth of the telecom sector in countries such as Uganda, Rwanda, the Democratic Republic of Congo or Nigeria is regarded as a strong opportunity for international investment. At three percent of direct foreign investment, the real effects of the African telecom sector remain a small part of regional economies, but investment is expected to grow as telecom companies increase their rural penetration rate (ibid.)[12].

2.6 Theories of Gender in Development

'Gender Equality means equal enjoyment by women and men of socially valued goods, opportunities, resources and rewards. Gender equality does not mean that men and women become the same, but that their opportunities and life chances are equal.'
OECD 1997, 9

In 1970, Ester Boserup released her book 'Women's Role in Economic Development' which illustrated through exhaustive research that in developing countries, development programs were improving men's incomes but either weren't reaching women or were actually further impoverishing them (Steeves 1993, 228). Boserup noted that when a new technology created income for women, it was often taken over by men (Boserup 1970 as quoted in Huyer and Hafkin 165). Boserup's work has been held in

[12] Currently, the region has very little research, development, or manufacturing of technologies, although there is great desire to change this. Rwanda has recently announced plans to develop into a high-tech hub for East Africa, including plans to intensify R&D, manufacturing and information servicing for the region. Ghana has begun to build an outsourcing sector for US and EU firms, and due to its proximity to the SAFE undersea fibre cable, Mauritius has become a high-tech hub for Southern Africa. See the Economist 7/9/06.

high regard ever since, as it was the first Western text to draw attention to the unique situations of women in non-Western parts of the world.

However criticism pervades Boserup's work as well. The Western influence in gender and development has been a contentious issue given the global scope of gender debates. Despite her focus on African women, Boserup has still been criticized for her liberal feminist analysis that treated African women's concerns from an outsider's perspective (McCune 2000). This critique points out that liberal feminist writing is most applicable to a Western post-industrial society, one in which 'men and women vie for the same roles, where individualism is highly valued, and where culture is increasingly mediated by technology' (Shiva 1993, as quoted in APC/WNSP p.xvi). Others have cautioned that richer, post-industrial societies support the idea of gender equality more than agrarian and industrial societies due to a culture in which men and women are expected to vie for the same roles (Inglehard and Norris 149).

Western feminist theory and gender programs have often been criticized for misunderstandings culture and recommending inappropriate prescriptive solutions that reflect exogenous funding and support (Steeves 1993, 223). The term feminism itself is even rejected by some Southern gender theorists, because of its affiliation with Western thinking. Many Southern writers on gender and women's rights therefore discount Western feminism as white, middle-class and largely irrelevant to their lives (Steeves 1993b). In response to these tensions, revisions to feminist theory by writers such as Fatma Alloo, Swasti Mitter, Sheila Rowbotham[13] and others, are gradually forming alternate gender centred theory. New writings attempt to recognize that gender roles

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[13] See Mitter and Rowbotham (1995) *Women Encounter Technology: Changing Patterns of Employment in the Third World,* and Ng and Mitter (2005) *Gender and the Digital Economy: Perspectives from the Developing World*

around the world are often more strictly defined than their Western counterparts, with women and men filling distinct and separate functions.

One theory proposed by Anita Gurumurthy suggests that gender and technology are both cultural processes which can be negotiated and transformed. Gurumurthy points out that women have 'multiple identities which interplay with gender to define their access to technology' (Gurumurthy 5i). If the Technology as Culture approach sees technology and gender as a negotiation between two social forces, then it is feasible that gender might in fact shape the evolution of ICTs, and by so doing their form and content as well. It's therefore important to consider the strength of these forces. One point agreed to by many technology and gender theorists is that men exert greater influence on technologies, particularly in their design and use (Henwood 1993). Studies on Internet use have shown the majority of content reflects young, predominantly English speaking males (Levey and Young 2002). Furthermore, because the finances and education required to own and operate an ICT is more prohibitive for women (Sciadas 168), it could be interpreted that women are less able to influence the design and content of technology than men. Specifically, it leads to questions about how gender inequality is expressed with technology, be it in design, in content or in the space around the ICT[14]

2.7 International Policy Implications

In 2000, the United Nations published the Millennium Development Goals (MDGs) a list of eight points meant to guide politicians, governments, institutions, and civil society

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[14] Here space refers to the social environment of an internet café, the privacy of a house, or the street corner where people come to use a payphone. From observations I have noticed that spatial environments strongly influence who uses the ICT, what it's used for, and what content is sent or received through it. Whether the space is public or private, filled with friends or strangers all factor into the dynamic of how it is used. However as this research did not study ICT spaces specifically, more study is needed to conjecture further.

towards eliminating poverty and improving quality of life for the world's population. The third MDG aims to 'promote gender equality and empower women'[15]. The clauses outline women's literacy, education, employment and participation in politics as key indicators of this goal. A clause in the eighth MDG reads 'In cooperation with the private sector, make available the benefits of new technologies, especially information and communications.[16] These two goals have mutually beneficial application because gender imbalance may grow as ICTs are used more frequently. The MDGs recognize that globalization is creating a global flow of information that governments, NGO's and development organizations need to make as wide, fair and pluralistic as possible. However it also emphasizes the private sector, highlighting their role as market mobilizers, instead of socially minded development.

In addition, the United Nations places access to information technology as the third most important issue facing women globally, after poverty and violence against women. In 2000, the G8 countries set up the Digital Opportunities Task Force (DOT Force) to look at ways to eliminate the Digital Divide. Their goal was to find ways to bridge the digital divide between industrialized and developing countries, in order to let developing countries 'fully participate in the global information society'[17]. While the DOT Force initiative indicates G8 countries are recognizing the need for more equitable distribution of communications and information around the globe, Leslie Reagan Shade called the action an 'allegiance to the modernization paradigm (Shade 115ii). The source of this criticism rests in what she argues is the technocentric focus of the DOT Force declaration and the commodification and appropriation of knowledge as property (Shade

[15]See www.un.org/millenniumgoals/goals.html
[16] See the International Telecommunications Union http://www.itu.int/ITU-D/ict/mdg/goals.html#g8
[17] 'The Digital Economy in Canada' http://www.e-com.ic.gc.ca/epic/site/ecic-ceac.nsf/en/gv00133e.html

115). It is also reacting to the privileged place awarded to the private sector in ICT development. What Shade refers to as the 'corporate-capitalist market economy' (115iv) argues that the private sector is privileging markets in the name of social needs, using an important humanitarian platform to expand their products for financial gain.

2.8 Uganda's Communication Environment

Uganda has very low communication penetration rates. It reflects the fact that across the sub-Saharan region many statistics, such as Internet bandwidth, comprise the lowest margins per capita in the world. The continent has the lowest
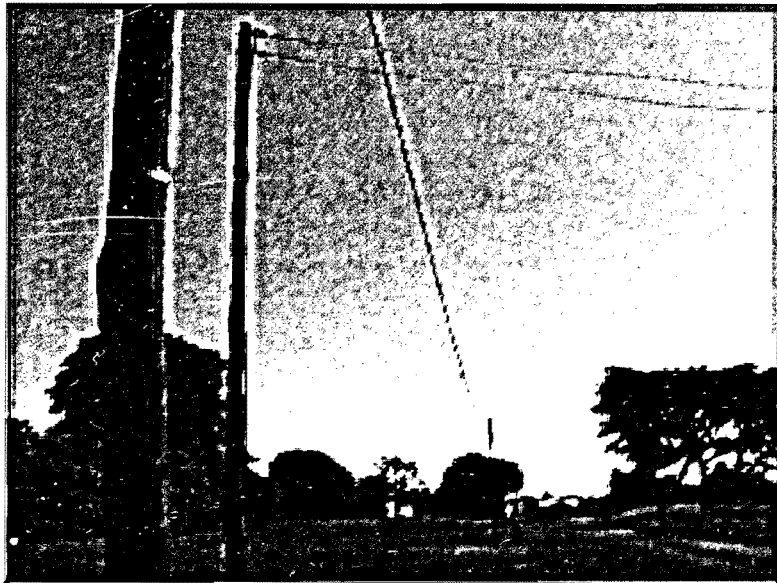
Fixed power lines in Apac town: To make a phone call in peri-urban and rural Apac, residents must walk or bicycle to town to use payphones or power up their mobiles.

Internet diffusion in the world – an average of one hundred and eleven users per ten thousand people (Acacia Atlas 115). In terms of on-line access, the bulk of Africa's international Internet bandwidth comes from half a dozen submarine cables that land in just fifteen countries on the continent (ibid.). In the interior, the cost of Internet can be one hundred times the cost of high speed Internet in the U.S. or in coastal African cities such as Durban or Dakar. This is due to the lack of providers and the high cost of satellite connection (ibid.). Furthermore, the combination of high prices and low incomes makes affordability a very important barrier to uptake: annual income per capita is very low, and

more than 40% of the population lives below the poverty line. (Africa E-Index 27). Its communications environment is remarkably advanced on some levels, and starkly lacking on others. Ugandan mobile penetration is eight times higher than fixed line penetration. It is one of only a handful of countries across the world that can lay claim to this fact. However the Internet penetration rate is just .4 percent (African E-Index 19) due to the lack of phone lines, and an unreliable power grid that isn't functioning at full capacity. As a result, 60 percent of urban Ugandans and 98 percent of rural Ugandans have no electricity (ibid).

Prior to 1996, Uganda's communication infrastructure was among the least developed in Africa. 70 percent of the country's communication networks were concentrated in urban areas, leaving the rural areas with the least access to these services[18]. This is in a country of twenty-six million people, where 85 percent of the population is rural.[19] Furthermore, women make up the majority of rural populations in Uganda, while men migrate into cities and into other countries in search of work. As more men leave the countryside, the neglect of infrastructure in rural areas has disproportionately burdened women as they become the majority of these populations and therefore 'off the grid' (Sciadas 167).

Uganda's telecom providers or 'telcos' include CelTel, MTN and UTL. Currently, Ugandan telcos have very few policies that recognize different user profiles, such as gender, occupation or location[20]. While telcos still have much work to do in this regard, Botswana and Uganda are widely believed to have the best examples of policy and

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[18] Uganda's National Information Technology Policy 2002
[19] See Rural Poverty Portal Uganda http://www.itu.int/partners/flash/index.asp?id=UGA
[20] There is some progress in creating 'smart subsidies', targeting rural areas for cheaper phone service through agreements between government and Uganda's telcos, but these are in the negotiating stage. See Katz 2006.

regulation on the continent, being cited in various multilateral and donor agency reports, including the ITU (Africa E-Index 27). Uganda's telcos have flexible rules, offering great payment innovations to compensate for nascent networks. As a result, pre-paid phone plans make up 99 percent of payment methods. Mobile phones can still receive calls when they run out of cash. Users often rely on beeping, another communication method that doesn't require cash. Beeping allows phone rings to substitute for responses like 'yes', 'no', 'call me', 'here's my number' and so on (African E-Index 175). Perhaps most intriguingly is the Me2U phone program, originally started by CelTel. In Uganda, Rwanda and DRC, it allows transfer of airtime between phones, allowing customers to pay vendors, or children in the city to send airtime to parents in the country - in essence turning phone minutes into currency (Katz 2006).

By the early 1990's, Apac's communication infrastructure was slowly starting to recover from years of neglect. The country's civil strife and warfare that began with Idi Amin's coup in 1971 and stretching through to the ascendancy of Yoweri Museveni in 1986 left the country's communication links neglected or destroyed. The civil war and economic mismanagement meant that laying ground lines for fixed phones was abandoned entirely outside major cities (Sciadas 78). When Yoweri Museveni gained power the country began to achieve a relative degree of stability[21]. In the early 1990's, neo-liberal reforms connected to lending packages from the World Bank and International Monetary Fund issued in an era of telecommunication restructuring around Africa, including Uganda. In 1995 the first private telco entered Uganda, when CelTel was awarded a license to provide GSM services to its clients. In 1998 Uganda's national communications provider was restructured, resulting in the creation of Uganda Telecom

(UTL). MTN entered Uganda the same year. The privatization of these systems has

resulted in a communication infrastructure that is fast expanding and changing how the

country communicates and conducts business.

3. Case Study

3.1 The evolution of communications in Apac

Apac at dusk: With a population of 10 000, Apac was centrally planned in the 1960's under Milton Obote. It boasts three main streets, a tidy market, the district government and a radio station

'Living in an ICT world is expensive for women in this part of the country.'

Gloria
Journalist, Apac town

Apac is a small town, and while there are only three main streets, it is centrally planned with a market, a hospital and a district administration quarter. The town has a population of around ten thousand people, but many more from the villages come to town for business. The district as a whole has a population of roughly 450 000 people, and the main economy is subsistence agriculture and fishing[22]. While there are three public

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[22]Northern Uganda continues to lag behind the rest of the country in development, primarily because of the Lord's Resistance Army (LRA) rebellion, which has killed an estimated 1.2 million people and thwarted

phones in Apac town, most people rely on mobile phones and/or radio for their

information and communication needs. Radios remain the main source of information in

the countryside, provided through community FM radio stations in Apac and Lira.

Apac also has a number of NGOs working in agriculture, public health, domestic

abuse counseling and gender. Women of Uganda Network (WOUGNET) runs a field

office called the Kubere Information Centre (KIC), their main goals to provide information

for the local population on agriculture and ICTs. The KIC also offers casual computer

training and radio program training in conjunction with Radio Apac. They work with

twenty-five women's groups throughout the district, organizing radio listening groups and

networking agricultural information to women via SMS text messaging. SMS has been

the main success factor behind mobiles in the district, as it is a fraction the cost of phone

conversation. Users must be literate to use SMS texting however, a significant barrier to

the non-literate, who are mostly older and often women.

In 2003, Apac, Lira and other underserved districts in the North were provided with

telecom towers, connecting the region to the outside world. This has resulted in quickly

changing patterns of business and socialization in the North as business and family are

able to communicate instantly over large areas that previously could only be traversed by

foot or vehicle.

The Internet has also begun to impact Northern Uganda, though its effects are

emerging slowly as the barriers to access remain significant. Amongst my respondents,

the high cost of Internet in Uganda makes it a less popular choice in terms of information

exchange and uptake. Whereas the Internet isn't widely available in Apac due to

investment due to security concerns. See
http://www.ruralpovertyportal.org/english/regions/africa/uga/index.htm

uncertain power supplies and the high cost of connection[23], mobile telephones are sharply favoured, as my respondents mention their simple, low cost convenience.

3.2 Methodology

For the respondents I talked to, living in Apac meant living with very little transport or telecommunications. While mobile signals do work along a network of wireless corridors through the district, more remote counties still lack coverage. Major roads are graded dirt and in the rainy seasons they are often in poor condition.

I decided against limiting my case study to one form of ICT, precisely because all are connected in some way to each other, both in terms of technology and policy. I observed that radio has merged into mobile phones, through using the phone to participate in call-in shows. Radio DJs are increasingly using Internet connections, sometimes from satellites, at their consoles to broadcast news and information over the airwaves. Among youth, it is popular to send mobile text messages to e-mail, radio, and even re-broadcast over TV, as a running titles on the bottom of the screen. I found that in general my respondents had used at least two ICTs at some point, even if they only owned a radio.

In terms of use this paper discusses computers less because connectivity and power supplies are so problematic in Apac that most respondents I interviewed had rarely if ever used one. Almost all respondents however stated that they wanted to learn and use computers. Correspondingly there is a larger emphasis on radio and mobile phones. The radios are almost ubiquitous around Apac, having reached saturation point since FM stations came to the district in the late 1990s. Mobiles were a popular subject of

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[23] Apac town has three Internet connection points, provided through Uganda Telecom ground wire and satellite links.

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discussion because their use is quickly expanding right now, and as this work shall explain, their innovative potential is very high.

One major hindrance to studying ICTs, and computers in particular, was the strict power rationing that affected the entire country. Called load shedding, there was a twenty-four hour on/off power restriction across the country. In Apac, this could be extended to two or three days without power. The schedule was often erratic, and the current weak and fluctuating. Outside the town limits, any power lines to rural villages disappeared altogether. This made it difficult to study computer use in Apac, as it was severely restricted and slowed work to a halt on power off days. The power dilemma had a significant impact on people's ICT use; people charged their phones from car batteries, relied on dry cells for their radios, and scheduled their shop and office work around 'power-on' days.

My sample population was small, so my findings must be considered in this context. With the help of Women of Uganda Network (WOUGNET), I conducted eighteen interviews in total, fourteen in Apac and four in Kampala, using a video camera to record responses. Of this, sixteen were general respondents and two were expert respondents. Most of my respondents held middle to lower income occupations, some were farmers, teachers or small business owners. Almost all had exposure to a variety of ICTs, and roughly half had access to two or more ICTs, generally a radio and mobile phone. Ten respondents were women, but I did not interview husbands and wives of the same family. Most interviews took place in work environments (business, office or field) as it was most convenient during a break in their work day. All respondents in Apac were within the town or peri-urban area except rural farmers in east and northwest Apac district. In Kampala,

one was an expert respondent working with an ICT and gender NGO[24] while the other

three included two school graduates and one refugee (*refer to Appendix I for a list of*

interview questions).

4. Findings

4.1 Mobile Phones as Income Generators

Interviewing people in Apac about which

ICTs they used, it was quickly apparent how

important the mobile phone was. People

responded that they generally saved for six to

twelve months in order to purchase a mobile.

Even if they did not own one, people were

keenly aware of a mobile's functional use – for

hearing a voice and communicating from afar, for

Boda Bob: The mobile phone has been a boon to Bob's income. Bob is saving enough to buy more bicycles to rent to other drivers. His sign says 'From person to person, call Bob' His mobile number is on the back.

airtime as a commodity, as a business investment, for saving airtime through texting and

beeping, for cutting out expensive time consuming travel and so on. Mobile phones are

increasingly common in Uganda, having leapfrogged older fixed line telecom

technologies that were too cumbersome and expensive to install and maintain[25].

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[24] Isis Women's International Cross Cultural Exchange (Isis WICCE)

[25] Leapfrogging refers to the process of bypassing older technologies and jumping straight to new ones. Many developing countries are choosing to bypass fixed phone lines entirely, as wireless technologies are more adaptable to rough terrain and require less infrastructure.

One respondent explained how the mobile phone boosted his profits,

'I acquired the phone through the little money I make from riding. It helps me to make more money...I realized my standard of living is going up. Before I bought the phone, I was not making good money, but after I acquired the phone I started making a lot of money.'

Bob

Boda-boda driver, Apac Town

Bob's quote illustrates that the ICT enabled him to earn a larger income. In Bob's case he was able to make more money riding bicycle taxis called *boda-boda* because customers could call or beep him and he could come collect them. In this way he had built up a loyal customer base that frequented his services instead of relying on the host of other 'unconnected' boda-boda drivers. His customers were likely to have mobile phones themselves, an indication they could pay him well. However Bob's job is only available to men. For cultural reasons, women could not hold his position; in Apac and Kampala it would be unthinkable for women to taxi customers on a bike or motorbike. So a simple and dependable form of diversifying income away from subsistence farming was unavailable to women.

4.2 Gatekeepers

'For women, most women do not have a phone; most women do not have free access on how to use it. Most men have a phone, so they have the access to use it. Women may have feelings of using those things, but when they don't have, it's difficult for them. So they go and borrow, but you know when you borrow it you don't use it as yours'

Ester

shopkeeper, Apac town

The 'gatekeeper' phenomenon that Ester describes was a common pattern for women who used mobile phones in Apac. Mobile phones are important tools of

commerce, hence owners tightly control them. Their purchase, airtime, batteries and/or repair made them too valuable to lend out freely. In the family unit, I found that men tended to have higher incomes and fewer domestic responsibilities. This meant that men tended to control mobiles and radios whereas women tended to borrow the device from their men.

It is important to recognize that user's social patterns differ significantly between mobile phones and fixed phones. In North America, where fixed phones remain standard appliances in the home and user fees are cheap, the phone is a communal entity that entire families and friends generally use. In contrast, mobile phones are private affairs, especially when they involve pay-as-you-go phone plans (i.e. airtime). So it goes with mobile phones in Uganda, the main difference being that there are no fixed phones to fall back on, hence the privacy of the mobile becomes the norm.

According to the African E-Index (2005) over 60 percent of mobile owners in Uganda are men (African e-Index, 25). Although I was not able to quantify mobile ownership based on my small research sample, this evidence implies that men are likely the majority mobile owners in Apac as well. For any borrower of that phone, its owner acts as a gatekeeper for incoming and outgoing calls, monitoring and screening communications. As Ester explains, making requests to borrow the phone was arduous because women would have to pay for the airtime which often they could not afford or husbands would simply deny their wife's request to use the phone. Similarly, husbands could choose to deliver an incoming message or not, or incoming calls might fail to reach a woman because her husband was out of town. One male respondent in this study indicated that he preferred his wife not use his phone because it could cause her to be

unfaithful[26]. Amongst my respondents I found that although ICT gatekeeping is not limited to gender segregation, gender segregation is overly represented in the phenomenon.

H: 'Who uses the phone most in your home?'

D: *'Yes, ah mostly myself because I am the one owning it. Sometimes the madam also uses it because if she has a request to call so and so. Then I have to call that person.'*

Daniel, schoolteacher
Peri-urban Apac town

Daniel's explanation of his household also hints to this dynamic. There was no indication that gatekeeping was a malicious act, on the contrary it seemed largely based on economic constraint, the fact that because the phone was an extremely expensive and valuable piece of equipment, its disappearance or malfunction would be a great loss in business and income for its owner.

Gloria, a reporter with Radio Apac, researches and reports on women's programming. A well educated young single mother, Gloria's job gives her good mobility and access to stories, allowing her a window into the lives of a wide range of women in Apac. Commenting on domestic relations in the communities she's observed she says,

There's a big gap between women and men. In most occasions if you look at homes you'll find that in the whole home maybe seven children, two women, - most of them love having two women, there's a lot of having two women in this area - you'll find that it's only the head of the family who has a phone, and that is a man. And when you're told to use that phone, that's when you use it, even if he's busy, if he's in the bathroom and a call comes in, you're not supposed to answer the call. Whenever you answer it, you're battered seriously. So you find that women are not given that chance to know about them...Men tend to overpower women so women are not given chances to have such things, they're not given chances to at least develop...Men find it very difficult to buy a mobile phone for a woman, to buy for a woman a radio at home.

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[26] Personal communication, Apac, June 2006

Gloria,
Journalist, Apac town

Gloria's comments tell a complex story of gender relations in the district. Gender roles are expressed through the control and ownership of ICTs; finding solutions to these problem lies in cultural specifics that are outside the realm of ICTs altogether. Polygamy exemplifies this complexity. Instead of cohabitating wives in the same compound Lango or Acholi men will usually have wives and girlfriends in separate houses or towns. Depending on his wealth, husbands will often furnish their wives with a residence, a small plot of land and monthly pocket money. Although a woman may be able to afford a small radio, she may only have borrowing use of her husband's phone – when he comes through town. This might mean that a woman will be able to use a phone and receive calls one week out of four, as her husband comes and goes.

Connected to polygamy is the issue of mobility and the fact that by virtue of their more diverse job opportunities and superior social position, Ugandan men generally have more mobility than women. Men will travel to other towns to go to school, conduct business and conduct romance. In some districts of western Uganda it is unheard of for women to even ride bicycles[27]. Women must stay in the home, care for the children, tend to the garden and vend the produce. This means that more men than women migrate to cities, whereas women stay in the countryside. These experiences support Huyer and Hafkin's claim that lack of infrastructure is a major gender issue for rural women (Huyer et al 2006) and further that a neglect of rural communications is also a neglect of rural women.

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[27] Personal communications, Apac, Kampala April-May 2006

Most Apac women I interviewed expressed that they could not save enough money to purchase and service their own phone[28]. For poorer women, the cost of the mobile and service needed to be reduced, and their wages needed to increase before buying and servicing a mobile phone became a realistic option.

While this case study mainly points to economic factors as the major barrier between women and ICTs, there are multiple factors which add to this prohibitive cost. Robert Rogers claims that first and foremost, the Digital Divide is due to a lack of infrastructure. The further out from urban centres you live, the more you suffer social and economic marginalization due to the lack of public networks, indicative of a rural-urban divide in communications (Sciadas 58). However once in the rural areas, further divides take shape; gender divides being foremost among them. Staff at WOUGNET described gender inequality in myriad forms; a gendered division of most household assets was very common. This meant that around Apac, if the household had one radio, it was more likely used by men[29]. One respondent described that when men return from their work, they are able to relax and sit down to the radio on the porch, whereas women who return from work have to cook for their husbands and generally stay inside to tend to the children. In addition, men will take radios with them to the local bar, leaving their families without evening programs.[30]

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[28] Exceptions included women I interviewed and worked with who were either politicians or NGO workers. Both occupations required high education, earning better pay.
[29] Personal communications, April-May 2006, **Gurumurthy**
[30] Personal communications, Apac April – June 2006

4.3 Seed Money

> E: *Well with the mobile phone men can afford to get money, unlike women. Sometimes it may be difficult for them.*
>
> H: When you walk through town do you see a difference? Do you see men using them more, or women using them more?
>
> E: *Here men, mostly men.*
>
> Eunice,
> Nurse Apac town

As Eunice points out, the most pressing issue to accessing communications for women is their lack of money and the fact that it's easier for men to earn and save. In general, Ugandan men are more likely to own and have access to bank loan collateral. Many Ugandan women, particularly poor rural women, continue to face severe difficulties like accessing education, adequate health facilities, credit, adequate incomes and political representation and participation (Mbabazi et al 2005). In part this is due to their inability to engage effectively with the cash economy. According to the United Nations, 70-80 percent of Ugandan women engage in agricultural work, yet only 7 percent own the land they cultivate (UNDP 1999). Despite their huge workload, most of this effort remains unpaid. In Uganda, men will be responsible for the cash crops, but much of male labour is withdrawn if those crops decrease in profitability. Yet when a crop becomes profitable, men tend to take over its sale and control its earnings. This pattern which Ester Boserup noted in her writings thirty years ago, is still in evidence today (IFAD, 7).

As Eunice mentioned, while men were able to 'afford the money' for mobile phones, the women more often made do without, leading them to borrow mobiles from husbands and neighbours, or use one of three public phones in town. One male

respondent was concerned that letting his wife use his phone would use up his airtime or let her cheat on him. This meant he mostly did not allow her to use his phone.

For women, the cost of purchasing the mobile phone, the cost of its airtime and the cost of its maintenance are difficult. Although airtime is highly valued, for women in Apac it still takes a secondary position behind essential purchases like food, agricultural inputs and school fees. Not surprisingly, ensuring these needs are met is also the primary responsibility of women (ibid). Better positioned in terms of employment potential, men can better afford mobiles and airtime because as head of the family, they ultimately decide how to divide the household budget. Furthermore, although husbands generally contribute income to the family, devoid of the primary care-giver roles of their wives, they are freer to use their wages for 'non-essential' purchases like a mobile phone, a business investment, savings, or as many respondents complained, drinking.

4.4 ICTs for Public Debate

Phone-in radio shows were also very popular around Uganda, but according to my respondents, most of the calls-ins came from men. According to Juliet Were of Isis-WICCE in Kampala, it was common that even in the big city, popular radio shows had few women contributing:

> 'What I've seen is that when you listen in, the number of men calling in are more than the women. At times the talk show will end without the woman even calling to contribute. For me that raises a lot of issues. Even me I don't think about calling in because I think about my airtime. Yes, the debate is so good, but the airtime is little. I have little airtime and I've just minimized it for emergencies... For me I see that as another issue, yes I have access to the technology, I have the phone, I have the radio, and I even can spare time to sit and listen to this debate. But the fact that I'm looking at the costs, the airtime costs, it disables me from contributing to that debate.'

Juliet Were
Isis WICCE Programme Coordinator, Kampala

Large development organisations are beginning to realize that the trickle-down approach to development will not reach the marginalized that are disproportionately women. The barriers to this are rooted in social and political causes such as unequal access to power and resources within and between countries. Women's ownership of and access to ICTs must be based around social justice, and communications for poverty alleviation. By virtue of poverty alone, ICTs must essentially be 'de-commodified' in order to get ICTs into women's hands. ⸺

Doing this is nevertheless a Herculean task. Developed and manufactured overseas, ICTs remain an expensive commodity in Uganda, firmly embedded as tools of economic progress. Planning that addresses social and political inequality require that governments and institutions subsidize communications to get them to the poorest groups. Beyond using the technology themselves, promoting ICT programs that assist women's incomes and mainstream educational and social goals is essential to engendering communications in marginalized districts like Apac.

4.5 Men and Gender Awareness

> H: Are you a gender student? I want to know more about your interest in gender.
>
> J: *Interest in gender? Me, I'm not a gender student, but I've always had an interest in getting to know more about females. Because in our culture we have so much been oppressive too. So we as young people don't want to be repeating the old past mistakes. There's certain things we need to correct.*
>
> Jeff

Men are commonly overlooked in gender development and awareness, despite the fact that gender refers to women and men both. It is too often the case that public understanding of gender aware practices becomes thought of as women only, an erroneous and potential regressive assumption. Limiting gender awareness to women only serves to compartmentalize gender equality, relegating 'gender issues' to a women's only special interest, and weakening its cross-disciplinary support (Cornwall 10).

Sometimes gender literature and programs can demonize men, demeaning their role in the community as pejorative. If the economic empowerment of women has been accompanied by the diminishing role of men then the resulting disempowerment of men in families may be enough to topple the project's aims.

It is therefore imperative to have public campaigns and sensitization to bring men on side with women in order to support improved rights and an equal share of labour, income and domestic responsibility. This is especially true of ICTs where men act as gatekeepers to the technologies. This requires the building of trust between men and women in the community, inviting men to meetings (but in an observatory role, while maintaining majority female leadership and presence), and including men in supporting income generating for women is a mutually beneficial exercise. In studies of Uganda and Tanzania, research found that women preferred gender centred projects which included men in discussion and implementation (IFAD 13). These findings support the participatory concept that involvement of everyone in the community is necessary for socio-economic shifts and improvements in gender relations. Additionally, it is important

to have sensitization amongst development workers who might be unaware of their own negative gender relations in their work and with beneficiaries.

4.6 Education for Girls

"There's a lack of realization that the really core problem of the poorest of the world's women is poverty that comes from isolation, from the lack of education. These are exactly what ICTs could help with. If there was awareness, if we could hurdle the deficits that women have to get them access to these tools that will get them out of poverty."

Nancy Hafkin, 'The Burden of the Struggle' APC 2006 41

Hafkin's argument that women's greater poverty combined with lower education is a defining factor in their lower participation with ICTs (Cheekay, 41) has strong resonance in Apac. Angela Thas points to education and political engagement for girls as perhaps the single most effective way of reducing poverty amongst women (Thas 7). This in turn could help girls have better incomes, better literacy and better engagement with society.

In 1997 Uganda introduced Universal Primary Education (UPE), in order to boost the education and literacy of all its citizens. This change has tripled the net enrolment of Ugandan children in primary school to 86%. According to the United Nations Advancement of Women (UNDAF) by 2006, gender parity in primary education had been nearly achieved. Educating girls has been shown

Jocie in the market: As a vegetable vendor, Jocie never went to school. She listens to her radio but owns no other ICT. She counts 'sermons and songs' as her favourite programs.

to reduce fertility levels, reduce child mortality levels, and promote education for the next generation (UNDAF 2006). Policies that encourage girl child education can help inform them of their rights, through literacy and access to information. However many hurdles still exist. Ugandan secondary schools see a sharp decline in the number of girls attending. Cultural norms – especially in rural areas like Apac – also mean that girls are pulled out of school early to marry and have children (ibid).[31]

Angela Thas considers ICTs to have two main uses associated with education. ICTs can be used in the education process, giving children access to electronic materials such as e-books, e-journals and websites that otherwise wouldn't be available to them. There are many examples of this, such as SchoolNet Namibia which has pioneered the adoption of locally appropriate, affordable computers, complete with open-source software and 'unique to Africa' discounted wi-fi service[32]. SchoolNet Namibia claims their biggest educational hurdle is in fact amongst adults, who are more often 'resistant to ICTs' (ibid).

Among this study's respondents, there was a strong stated desire to educate all children and keep girls and boys both in school. However after the primary education years, the school fees required for secondary education forces many parents to choose who stays and who gets pulled out. One respondent, a widow, describes how the radio gave her encouragement to keep her children in secondary school,

> '[The radio] can help me struggle to send my children to school. The word of God can help me to teach them how to be these days. These days there are so many diseases that are coming so I need to teach them when we are together with the news. I tell them they have to stay as they are, carry on with their studies and they will get what they want after their studies.'

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[31] The average birthrate in Uganda is one of the highest in the world at six children per woman (IFAD 2005).

[32] SchoolNet Namibia: www.schoolnet.na

In Apac, personal communications and participant observations suggests that parents, when faced with a choice, are still selecting the boys over the girls when it comes to sending a child to school. Girls, disadvantaged by early marriage, early pregnancy and domestic expectations are tremendously in need of education, and ICT resources may help them achieve this. However more money, better facilities and better training and compensation for teachers must be in place before the overall quality of schooling is strong enough to support ICTs in education as well. At such a juncture, and with gender aware ICT programs and a focus on building local content for girls and boys, ICTs in schools can be beneficial.

4.7 Economic Innovations

H: How does the mobile help your business?

E: *Okay it helps me a lot, because there are always people I buy from, from Lira, from Kampala. Like when I need eggs, I just ring those whom I buy it from, from Kampala, I just send the trays and then the money, they load and put on the bus and send for me here. So it saves me money, instead of me going to Kampala, I just send the money and pay for the cost of transport alone.*

Ester
Shopkeeper, Apac town

Here Ester describes how a mobile phone has helped her break through the time and distance barrier. Whereas she used to have to travel every two or three months in order to arrange the account with her egg supplier, a simple phone call now eliminates this arduous and costly trip. For Ester, her mobile phone has helped reduce the disadvantages of time and distance associated with living in Northern Uganda.

Research is showing that people continue to rely on traditional sources for their information (African e-Index 18), which may mean using radio, television or print – but increasingly communities are using new ICTs such as cell phones to help their work. ICTs can help augment locally based solutions to problems by providing information on a host of issues including the time/distance barrier common to rural life.

It is somewhat unusual to find a female-headed household with a mobile phone. In Uganda, female-headed households are significantly poorer than male-headed households (African E-Index 2005 25), most likely because male-headed households will often contribute dual incomes of husband and wife. In their survey of ten African countries, Research ICT Africa found that those countries with a more equitable distribution of mobile phones between women and men are those which are more economically developed (ibid.).

In Uganda, it is difficult for policies to keep up with the fast-paced change of new technologies. Most statistics on mobiles fail to breakdown use within the household, and may discount the inequality of property ownership and family division of labor which impedes women. Most social data on communications, poverty and development also fail to break down gender as an indicator. Even if telcos create a program that gives phones to rural women, her lack of income could inhibit her from putting airtime on the phone and her location in the rural areas might prevent her from keeping it charged. Giving access to these women is therefore about making a host of related resources available first, namely better income, literacy, a supportive educational environment, appropriate equipment, a stable power supply, and relevant content.

Related analyses from Uganda show that women entrepreneurs face significant gender-based obstacles to establishing and operating their businesses, including access

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to finance, land and non-land assets, legal advice, and current events such as international news. This situation limits a woman's capacity to expand out of subsistence farming, barring her from finding better paying work (Ellis et al. 2006 as quoted in UNU 2006). As one respondent explains,

> '...if you have a mobile phone it's a chance to look for jobs. It's the easiest way to look for jobs; it's the easiest way to connect to an officer whom you are trying to get the job from. And sometimes, connected to that when you go for an interview, they may request you give them your phone number and if you don't have a mobile you may miss that chance because they will be communicating to those who have mobile phones.'

<div align="right">

Daniel, schoolteacher
Peri-urban Apac town

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Daniel mentions that increasingly in Uganda, despite the lack of mobile phones for most people, if you have one it automatically forms advantages when competing for jobs. When I recruited for a research assistant, five of the six short listed applicants were men, and the one woman short-listed did not have a mobile. I had to disqualify any applicant without their own mobile because he or she would be unable to fulfill the communication requirements of the position.

Historically in Uganda, men have largely controlled the cash economy, while women have been the majority of its labourers. According to Pamela Mbabazi this inequality extends back to the colonial period when men established control over most of the cash economy (Mbabazi et al 2005). Whereas men were generally paid in cash, women were more commonly paid in kind with items like salt, food or soap (World Bank 1993). Women's exclusion from the cash economy boded poorly for their place in society as the value of both men and women has been measured in relation to their contribution to the cash economy. A man who earned cash was highly regarded even if he could not

buy food for his family, whereas a woman who was merely a subsistence producer was undervalued for her work, even if she fed her family (Mbabazi et al 2005). Considering that women were shut out of colonial politics, Uganda's colonial period set in motion long-standing disadvantages for women that continue into the present day.

Today, women's double workday hampers them from improving their knowledge, participating in community affairs or developing business ventures. Women account for a huge amount of 'invisible' labour, agriculture, head loading to market, childcare and domestic care that may contribute to the economy, but is unpaid itself. It is estimated that 66 percent of female activities in developing countries is not captured by standard economic indicators, compared with only 24 per cent of male activities (UNU 2006). Failing to promote women's rights to technology risks failing to recognize that women make considerable contribution to economies. These contributions are occurring in an increasingly technology-mediated world. However it is important to focus on the social aspects of this challenge, instead of jumping straight to the technological.

One response to this dilemma is currently being undertaken by Grameen Phone USA, which has been operating phone kiosk pilot projects in Uganda since 2003. Although their activity is currently limited to southern Uganda, they give small loans to women totaling an average of $200. Limiting the program to women vendors only, Grameen Phone requires women to already have a basic income generating scheme in place – vegetable vending, tailoring, shopkeeping etc. In this way, the phone kiosk can enhance their previous business while also raising their status in the community as a provider of electronic communications.

In partnership with MTN and Nokia, Grameen Phone has adapted the units to charge from car batteries, and adapted repeater antennae mounted on simple wooden

poles. In this way, remote villages normally off the MTN grid can still pick up signals. The micro-loan includes the phone, charger, one car battery, the antennae and signage. Loans do not require collateral, and interest is low. Since the program has started, the repayment rate has been almost 98 percent[33].

The phone service is both a money making enterprise for an entrepreneur and a communication link for her and others in the neighbourhood. Working with female village phone operators also promotes a women-friendly space for communications. Based on my observation of computer centres, a welcoming environment for women is an important factor in encouraging her repeated use of the space. Because men tend to predominate in Internet cafes, one response from management has been to ban the surfing of pornography and other material that women find offensive from the café space.

The Grameen Phone model is a very positive development for rural Ugandan women. Considering that only 5 per cent of the rural poor in Uganda have access to savings and credit (IFAD 2003), it has been a life-changing business model for women entrepreneurs. Through eliminating the collateral and income barrier, it enables women to step into the cash economy. Grameen's model has met with good success, because it has illustrated that women, despite their poverty, can be as trustworthy as men or more so when repaying the loan. So far in Uganda, the model has been working because it is not purely economic, but rather addresses social and economic challenges together.

However there are also drawbacks to the system. If micro-credit is highly successful for women, it may unhinge men's role as income earners in the home, leading to a 'loss of worth' for men as women increase their financial independence. Hence it's very important for micro-credit programs to include some sort of caveat for men in their

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[33] See Grameen Phone USA
http://www.grameenfoundation.org/where_we_work/sub_saharan_africa/uganda/village_phone_uganda/

programming, whether it's sensitization or some sort of role in the projects. Documentation of men 'taking over' from women when technologies become economically viable has been noted in gender and development studies (IFAD 2000, iii), so a simple solution should draw heavily from local input.

The income generating potential of using mobile phones for business is not equally available to all. Without sustained intervention to engage more women with communications, and women will continue to use the technologies less than men. There are important steps being taken in Uganda, and sub-Saharan Africa as a whole, but supporting women's rights to information requires a combination of strong participation from women and men equally, in combination with progressive policy development that promotes infrastructure to rural areas and gives concessions to the poorest groups.

The Grameen model also allows women to become communication vendors, re-selling communications to the public. While this opens doors for women to earn income, it should perhaps be treated as one step towards wider, cheaper communication access for everyone. Widely available and affordable public communications should still be worked towards on the national level, so that access is not limited to a microfinance model.

4.8 Local Innovations

In my case study there were some significant examples of gender based local innovations, largely precipitated by economic

Field visit: The staff of the KIC (WOUGNET) visit the women of Obang Atwero, eastern rural Apac district.

constraints due to low infrastructure and the high cost of communication and travel. Perhaps the most compelling was the radio listening club, rural women who arranged weekly meetings in order to tune in to favourite radio programs or pre-recorded audiocassettes. While this reflects rural women's limited access to newer forms of ICTs, groups such as *Obang Atwero* ('God is able') have helped to alleviate a shortage of radio ownership among rural women, and the cost of buying batteries for one household.

WOUGNET, with the support of HIVOS implemented radio listening groups with Apac farmwomen in 2005. Twenty-five groups were given radio cassettes, allowing the women to gather and listen to live radio broadcasts, or pre-recorded tapes of radio programs. The groups are able to pick up Radio Apac and Radio Lira, which both broadcast in the local dialect Luo. Programs include agricultural information, market prices, small business ideas, family well-being, public health and so on. Each week the group collects a small amount of money from their members for agricultural inputs, and collectively farms each other's plots. Their savings and access to agricultural information has allowed them to buy drought resistant groundnut seeds, build seedling nurseries and invest in a piggery. Their access to current information in combination with their improved farming methods has resulted in significant positive change and better incomes for group members. As one member explains,

> 'We in Obang Atwero have been listening to programs by KIC on agriculture and other information. This has helped us to develop our technologies on agriculture and information. It has helped us to create a strong friendship among the group members...It has raised our level of understanding, hence it has improved our standard of living...The radio has created a good relationship with the neighbourhood because of our women's group, it gives us reason to sit together. When I go back home, my neighbours ask about what we discussed in the group, or what message was delivered to the members, and how good or important the messages were'.

Rosalia's 'good relationship with the neighbourhood' would indicate that her

authority in the community has risen as people approach her for information she learned

in her meetings. This may reflect a growing sense of authority or agency in the

community, as the women gain status through 'giving us reason to sit together' and

learning new information about crops, social relations, world events and so forth. Similar

indications that add to evidence of women's agency through radio listening groups has

been studied elsewhere in the world. Examples from other African countries, Afghanistan

and Bolivia also indicate that women feel greater confidence, self-worth, self-esteem and

a reduced sense of isolation through this form of information learning (African E-Index

167)[34].

Radio Apac FM: The town's station is a hub of community activity. The building contains public computers with Internet access, the town post office, a public payphone and a generator for power off days.

In terms of identifying appropriate technologies, radio is not complex or new but it reaches the marginalized, the rural, the poor, the women – precisely because it's cheap. Advising policy makers use radio based ICT programming to reach rural women is not omitting the importance of increasing bandwidth and mobile services as well. It simply speaks

to gender disparity, as it builds upon the very few resources that are currently available to

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[34] Gadio 2001, World Bank 2005, Rodriguez 2001, as quoted in Sciadas 2005

rural women. Simple opportunities such as radio listening clubs, may increase a woman's earning potential enough that she can buy a mobile phone to help her with her business. There's some fascinating permutations happening with radio in Uganda, especially convergence with mobile for talk radio, and using the Internet for 'radio surfing'. Radio surfing is where radio DJs use the Internet to answer questions on-air. People can call in, write, or even come to the station with their questions. By gathering information from reliable sites that concentrate on local content, radio stations can use the Internet to widen their programming potential and increase the immediacy of their information.

An advantage with radio surfing is that internet connections at community radio stations allow announcers to access and broadcast information to rural communities on-the-spot, by-passing the normative model of the Internet as an individually consumed and operated communication tool. If it's a program that discusses new technologies, then radio surfing also allows a listener to gain a greater understanding of the Internet's functions. Projects and policies which encourage points of presence (PoP) in community radio stations will go far to bring Internet information to rural women, and for the interim bridge the last-mile gap for these populations.

4.9 Policy Innovations

The Ugandan Communication Commission (UCC) *National Information and Communication Technology Policy* 2003 targets universal access as its first priority. Considering that Uganda has a higher percentage of females, and that the majority of the country's population is below fifteen, there would be strategic interest from youth in expanding ICT skills. The UCC report also emphasizes that one of its objectives is 'to

develop mechanisms to increase women's access to information (especially in rural areas) so as to reduce the gender information gap' (38). The document also mentions gender mainstreaming and 'uplifting...disadvantaged groups' (10) variously throughout the document.

The *National Information and Communication Technology Policy* 2003 also outlines a framework for implementing the policies including coordination, an action plan, monitoring and evaluation. The effectiveness of these policies are now coming to fruition, but it remains to be seen how hard hitting its gender policies will be. The document is the result of high level consultation, but it will take the sustained efforts of non-governmental organizations and government together to monitor and report on the long-term success of gender aware work.

One example of some interesting programs made possible through Ugandan communication policy is the introduction of Me2U, a service that allows callers to use text messaging to send airtime credit to other mobiles. This will no doubt impact women, as it facilitates the movement of money around the countryside, and is proving particularly useful for sending remittances from urban to rural areas. In Uganda most people do not have bank accounts and the service has become a convenient, cheap way to transfer money. In villages it has also emerged as a substitute for cash, with people using airtime to pay for their shopping. Within minutes, a customer can transfer airtime to a shopkeeper in exchange for goods. The shopkeeper may then transfer this airtime to relatives in a different district to repay a loan or to stay in touch (Katz 2006).

The Me2U phenomenon is proving enormously popular in a part of the world where 42 percent of the economy is informal (ibid). In a region that suffers from great amounts of economic instability and sparse infrastructure, the success of mobiles as a facilitator of

cash flow warrants close attention. What is interesting is that the Me2U system was developed by CelTel South Africa and increased in popularity because of the nature of sub-Saharan Africa's informal economic networks. Currency fluctuations and little public trust in large banks coupled with the informal markets and migration means that major institutions must accommodate for low incomes and negligible credit history in order to attract customers to communication services. Me2U's innovation has turned airtime into a currency almost as valuable as paper money, a grand departure from notes and bullion.

Me2U enables the movement of money for simple transactions – an important development for people without bank accounts. But the fact that it requires both sender and receiver to carry a mobile is worrying. As Gloria and Juliet mention, men's higher ownership of mobiles will continue to reflect men's predominance in directing the cash economy unless social intervention allows women to play a greater role in the economy as well. Further, it antagonizes 'communication as a right' outlined in the Beijing Fourth World Conference in favor of 'communication as a commodity', creating a highly charged issue of debate (Nyamnjoh 9). Putting a price tag on communication is difficult for anyone - man or woman - who has trouble accessing the cash economy. Social intervention and policies that subsidize communications for women will be is necessary to get more Apac women into the benefits afforded by ICTs.

5. Analysis and Discussion

The profile of my respondents reflected social, cultural and geographic influences that were enormously important indicators of ICT use. Amongst my respondents, poverty was a general barrier to ICT access that had a wide range of social expression – gender disparity being foremost among them. This is a fact recognized in communication

development programs, and it is showing response in Ugandan communication policies. Because ICTs are often designed for economic exchange, and are therefore based on capital, their placement in cities is logical; their roles in economic centres are defined. But applying ICTs to a poor rural region like Apac has less attractive returns for business, it might not make sense for the private sector to promote mobiles in remote regions that lack economic strength. Throughout sub-Saharan Africa however, the majority of people live outside cities, as Uganda's 85% rural population indicates. Because of the wireless potential of phones, it is finally profitable for telecom companies to capture this huge untapped customer base. For Uganda's communication policies, the challenge is now less about geography and more about demographic access by gender, income and education. Using ICTs to mitigate some poverty problems has great potential, but beyond giving larger markets to telcos, using ICTs for poverty alleviation requires a non-profit even activist foundation to see them used for social benefit as well.

Gillian Youngs in her essay 'Feminizing Cyberspace' writes,

> 'Technology gaps are coming to represent one of the most serious concerns in the assessment of what it means to lose out in the game of globalisation. These rules include privatisation, liberalisation and tighter intellectual property rights. With the service sector growing fast in the global economy, market and major corporate power are increasingly driving the agenda for control over innovation and technology transfer'

<div align="right">(Youngs 2002, 79)</div>

Critical development communication theory points out that global processes are commercializing communication, turning it into a commodity and presenting media as 'products' to be consumed (Boyd-Barrett 37iii). While ICTs were originally shaped as tools for voice and economic exchange in the industrialized world, when ICTs are

<div align="center">54</div>

transferred to agricultural economies with very little infrastructure and extreme social and economic inequality, it raises many questions about who ultimately benefits. When combined with the preemptive control of international policies which have reformed Uganda's communication environment, ICTs may even further this economic inequality, and thus gender inequality as well. Such questions will continue to dog the ICT development arena until large-scale shifts between rich and poor is evident.

In keeping with the gendered technology and culture approach that Gurumurthy outlines, it's important to determine how useful the ICT system is for the region in question. As an example, a computer lab in a rural area might be poorly located due to uncertain power supplies, uncertain maintenance and upgrading, or remoteness. Limitations such as low literacy and other work demands may lead to low turn-out at computer labs, especially amongst women. Financially, if a telco pushes a technology into new markets at prohibitive cost to the general public then the ICT remains limited to wealthier, urban segments of the population, thus limiting their wider social benefit. A solution to these dilemmas might lie in placing computer centres in areas with good access to power and connectivity – such as the peri-urban limits of a town or city, but in a space which is community oriented, perhaps where other public services are administered and where the whole neighbourhood, including men, women and children all feel welcome. This approach to development communications is aimed at creating inclusive strategies at poverty alleviation, where local people - especially women and the poor - feel they can address their own development priorities more effectively.

Young's quote illustrates that the extensive focus on technical access needs to be refocused to better respond to wider social challenges on the local level. To tackle gender issues, a mutually workable solution needs to be found, perhaps one where a non-profit

organization can work with telecom companies to subsidize equipment for long-term income generation. However, to truly make information wealth a reality for more women in Apac, development communication cannot be based on the fastest economic return alone. With social needs of women and the poor prioritized, then hopefully an investment in rural communications can be an investment in rural women as well. Apac exemplifies a district that is seeing improved rural communications, but as my respondents stated, it is still prohibitively expensive for women. Considering the optimism amongst telcos in Africa, it is especially important to commit to socially conscious ICT development that addresses women in particular. This will need to be mediated by Ugandan government policies that are forward looking. There is a need to re-invigorate social development in ICT programs —progressive gender awareness in education and political participation can foster wider social contributions to the economy and society at large.

ICTs can be tools of advocacy and women's empowerment if gender advancement is incorporated into ICT programs. To be feasible telcos should identify and then subsidize low cost technology and payment plans that respond to the needs of women. Furthermore, policy makers must mainstream gender considerations into this process so that women are not only ICT beneficiaries but also active stakeholders in innovating their design, their content and their application. More than simply gaining access to knowledge, focusing on gender in communications is about women getting involved in defining and creating their own information, in creating and sharing their own knowledge, and in defining their own spaces with the technologies.

5.1 Mobile Uganda: Socially Shaped?

In his essay 'Do Artifacts Have Politics', Langdon Winner points out that technologies are inherently political, both in their development and applications (Winner 290). Some consumer ICTs evolve quickly from year to year in response to the needs and whims of the public, but what sets ICTs apart from other technologies is the pace at which they evolve. The social dimensions of mobiles reside in their growing consumer demand and the pressure this places on technologies and policies to adapt. In Uganda, this has created a high degree of social negotiation between technology and user because mobiles are evolving to reflect the most telltale demands of consumers. On the policy side of these changes are pay-as-you-go plans and money transfer options. On the technology side are adaptations like in-built flashlights and sturdier casings to account for the dust and bumpy rides of rural life. Price is quickly falling as R&D disappears from the cost of manufacture. These innovations seem to indicate that people, politicians and engineers are all playing a part in essentially influencing the evolution of mobile technologies[35].

Facing the reality of sparse phone networks, African telcos are using fibre optics to bypass the need for copper cable altogether. Engineers are focussing on innovative wireless means of delivering Internet from centrally located nodes to outlying rural regions, while policy makers and lobbyists push for new Internet links to the continent[36]. Francis Nyamnjoh documents how across Nigeria, the cellphone owner acts as a point of presence for generating revenue, generating higher averages per user than mobile

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[35] Cross-national reporting from various African countries shows that tech innovations in African mobile phones are a regional trend. See the ITU's 2007 country case studies on mobile phones. http://www.itu.int/osg/spu/casestudies/#mobile, and annual reports from MTN, Nokia and CelTel 2006
[36] The Eastern African Submarine Cable System (EASSy) which as of early 2007 is under construction, will stretch from Malaysia to Port Sudan, linking six points in East Africa and terminating in Durban SA. The completion of EASSy will finally encircle the African continent with fibre optic, allowing high speed connection between African and overseas countries. See http://www.habari.co.tz/node/bulletins/agm2005/eascs.html#3

owners in the West (Nyamnjoh 16) The shaping of ICT technology across Africa is charting unexplored territory in its bid to innovate communication solutions that work across the continent.

5.2 The Case for Creating ICT Agency

> 'The fact that technology has remained a male preserve historically, suggests that the appropriation by women of technology is in itself a political project.'

> Anita Gurumurthy 'Gender and ICTs: Overview Report' 2004 P5iii

Achieving gender equality in society requires society to cultivate multiple areas of learning, understanding and growing, but perhaps one of the most important factors is empowering women themselves to learn about their situations and to feel they can work towards solutions. As Ester mentions, to accomplish this requires that women own not just borrow ICTs. Gurumurthy explains that shifting women from 'objects of information to controllers of information' can allow them to 'create their own information and spread their own messages through new ICTs' (Gurumurthy, 11iv).

Angela Thas goals of education for girls and political participation are also constructive factors. For Rosalia, this has taken the simple form of using radios and mobile phones to share crop information amongst her women's group. The technologies could similarly be used to call women to a meeting on village governance or help a woman connect to family in the city. Rosalia's statement that her listening club gave her 'a good relationship with the neighbours' is one indication that the radio, and what it represents, has elevated her status in her community. Of course the success of this endeavor is based on socially organized actors – participants on all levels – who can

appreciate that technology must have informed activity around it in order to be effective. Development practitioners need to appreciate that the technology itself is not a panacea, but requires the concerted power of people to find progressive uses for its abilities.

Women who have the ability to engage with ICTs can potentially shape their use and content and shift the balance of power in their favor. This allows technology spaces to become spaces for women as well, normalizing women's working relationship with the technologies. There are already many examples of this in civil society, with new versions emerging all the time.[37] ICTs can also provide ways to extend and support public processes by increasing participation and transparency of information (AWID 2004).

The income generating potential of mobile phones is not equally available to all. Without sustained intervention to engage more women with ICTs the technology will simply replicate existing inequalities and women will continue to use the technologies less than men. There are important steps being taken in Uganda, and sub-Saharan Africa as a whole, but supporting women's rights to information requires a combination of strong participation from women and men equally. In Uganda, policy initiatives that promote infrastructure to districts in the north and gives concessions to the poorest groups will be particularly beneficial.

The case study examined in this paper attempts to shed light on pervasive gender inequality in the Ugandan ICT environment. There is no single source for this; it is perhaps a spectrum of many issues including unresponsive policies, cultural norms, women's lesser education, barriers to credit, and most acutely, poverty. This is a situation shared by many countries in the world. Uganda exemplifies a developing country that will

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[37] See the Association for Progressive Communication (APC), ENRAP, the IDRC's GRACE Project, SchoolNet Namibia, and numerous guerilla-style 'cantenna' projects that work to service pirate wi-fi networks in urban centres around the world.

need to act on gender aware communications policies in order to see women lead a better quality of life and thus contribute more fully to inclusive, local development. What this research also uncovered were Ugandan women with a great deal of optimism, energy and informed understanding of how to move forward and tackle gender inequality despite the odds.

The only billboard in Apac: Some of the most common advertising in Uganda comes from the telecommunications sector.

6. Conclusion

Policy makers continue to differ substantially on what the right uses of ICTs are in poverty alleviation. Neo-liberal policies favouring ICTs for economic development are a common approach attempted by industry, bilateral, and multilateral development organisations. Proponents of technology development argue this will lead to economic development and thus social development. However critics of this position contend that technology enthusiasts are pushing ICTs under the guise that technology 'per se' *is*

development (Melkote and Steeves, 263) The extensive critique of dominant development theories such as Modernization illustrates that economic development will fail to impact women unless interventions that defend their social rights are also ensured. Civil society argues that ICTs must be employed for their social potential, but even socially based programs must have financial support to be constructive in the long term. It is therefore important to recognize that economically viable programs should work in combination with informed social development to ensure that wide economic stability and prosperity is felt at the local level. Investing in socially conscious ICT work in combination with grassroots income generating models that has government support is an important strategy. The Grameen Foundation's focus on women merchants and Obang Atwero's farming cooperative illustrate that local solutions are a key way forward.

On another level, examining Uganda's lack of access should also be accompanied by questioning Western countries' wealth of access. What factors contribute to women's high usage of ICTs in Canada or the United States? Understanding these issues is important to conceptualizing redistributive solutions to divides of wealth, geography, gender and technology. Understanding what privileges 'have' countries helps us to understand what leads to 'have-not' countries, a reminder of the entrenched interconnectedness of underdevelopment.

Having access to information is about much more than simply ICTs. ICTs are only one part of a long chain of economic, industrial and policy transformations that must work in unison for communications technologies to have a positive impact on society. ICTs cannot fulfill their potential in development unless decision-making in the ICT sector also undergo fundamental change (Marcell 2). Many areas of gender and development communications remain under-examined including women's uses of media content,

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women's employment in science and technology, communications and politics (Steeves 2003, 228). Locally relevant content is a key issue. The Digital Divide to Digital Opportunities Index found that Ugandan women wanted content relating to credit, agriculture, HIV and reproductive health, education for girls, cooking, women's rights, and property rights. (Huyer and Hafkin, 187)

Uganda will need to create and act on more gender aware communications policies in order to enable women to lead a better quality of life and contribute more fully to inclusive, meaningful development. Concrete action will be elusive without true reform at the highest level. In the past, governments and development organisations both large and small have paid lip service to gender; the MDGs provide an authoritative document advocating for sincere action, and papers such as Uganda's Information and Technology Policy 2002 illustrate that important steps to gender equality are happening within the country. Another critical factor is getting development practitioners trained in gender sensitization to help them identify gender inequalities in their own programming and interactions. In part, sluggish policy reform on gender is due to a lack of awareness or appreciation amongst policy makers themselves. As Jeff mentions, sensitizing men and women to gender problems fosters a supportive culture for reform in policy and in the field.

Uganda has extreme gender disparity, combined with extreme poverty, especially northern districts like Apac. Diverse cultural norms are intimately involved in how both gender disparity and community solutions to poverty are expressed, and this makes prescriptive solutions to gender inequality difficult to propose. Despite varying cultural conditions, women are central to economic and social development throughout Uganda, indeed throughout the world. They make majority contributions to the production and

provision of food, energy, water, healthcare and family income (ECOSOC 2004). As the holders of this knowledge base, women are therefore critical to include in ICT programs, and in building the foundations for women's free, unfettered access to and ownership of ICTs.

So far gender aware communication policies around Africa are emerging sporadically, with Botswana, Rwanda and Uganda mentioning gender in a number of high and mid-level documents[38]. The actual effect of these documents shall require continued monitoring however, as the topic has so far been limited to minor clauses, despite concerted efforts by civil society and the occasional champion in government[39]. Uganda also has some remarkably progressive policies that bode well for the future of their communication networks. However they are not yet matched by real results on the ground. Information is a powerful tool, and increasingly a valuable commodity which has become central to global structures of power, finance and mobility. As a word of warning for the future, development communication practitioners must recognize that without effective policy intervention in communication laws, Ugandan women will continue to be marginalized from interacting with ICTs. These gender-based problems cannot be solved through economic development alone, yet currently the majority of ICT development projects are used primarily for this purpose. Inexpensive, unfettered access to communication for social development will allow women to participate more effectively in society and give them the tools to advise the next generation about their health, their rights, their education, and ultimately their prosperity.

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[38] See the Government of Uganda's Poverty Reduction Strategy Papers 2000 and 2005, the Uganda Communications Commission (July 2001) 'Rural Communications Development Policy for Uganda', and Mbabazi et al (2005)

[39] Gender as a topic in Ugandan parliament has a history of being highly politicized and fractious. The Government of Uganda's Domestic Relations Bill which recognizes women's human and financial rights, especially for wives, widows and girl children was finally passed in 2003, after seventeen years of government inaction, controversy and debate.

Recording the story: WOUGNET conducts video training with staff and farmwomen to document their fieldwork.

'The Gender Dimension of Communication Technologies in Uganda'
Field Research Questions

Explanation of study

The purpose of this study looks at how men and women in Apac use Information and Communication Technologies (ICTs) on the household level. When we refer to ICTs, we are referring to radio, mobile phones, television, and computers.

Primary Research Question:

How is an increasing ICT use impacting gender relation in Uganda?

Interview Questions: General Section

1) How old are you? M/F
2) Are you married or single? How many children do you have?
3) Who is the head of your household?
4) What level of schooling did you reach/have you reached?
5) What is your main source of income?
6) What are the main activities you do in a typical day?
7) What are the main chores you are responsible for in the home?
8) What are the main chores your husband/wife is responsible for?

Product/Services:

9) What are your main source(s) of information?
10) Which do you mainly enjoy, drama, news, education programs or music?
11) What is an example of some important information for you?

12) Do you have an [ICT] in your home? Which one(s): radio, mobile phone, computer, television, others? **(If yes con't to '12', if no con't to '17')**

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13) How did you acquire the [ICT]?

14) What do you use the ICT for the most? What times of the day do you use it?

15) Who uses the [ICT] most in your home?

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16) Are there any ICTs in your neighbourhood that are available to the public? YES/NO

    a) If yes, which one(s): radio, mobile phone, computer, television, other?

    b) If yes, why do you use them? What are your main activities on the ICT?

17) Have you ever received ICT training? YES/NO

Impact:

18) Are there any social or personal factors that restrict you from using the [ICT]? YES/NO

    b) If yes, can you explain?

19) Are there any programs on [the radio] you wish you could listen to, but are unable to?

20) Can you tell me what has changed as a result of FM radio? As a results of mobile phones?

21) In your opinion, what are some of the benefits of using ICTs? Are there any negative effects?

Gender sensitive questions:

22) In your home, has decision making or household roles changed as a result of using [ICTs]?

    a) What has changed? Negative or positive?

    b) Has this created any tension?

23) Do you think that [particular ICTs] are more appropriate for men than women?

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