HIGHLIGHTING THE CONVOLUTION THAT IS THE ICT WORLD: PROFESSIONAL CAREER WOMEN IN KENYA SPEAK

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Abstract This paper emerges from a study that investigated how professional career women in the information and communication technologies (ICT) sector in Kenya have accessed and are appropriating ICT. The paper has been inspired by women who have ventured into the fast growing sector of information and communication technology (ICT), either as owners, CEOs or technical persons working in various organizations and companies in Nairobi Kenya. They are well educated, trained and occupy senior technical and managerial positions in their respective organizations/ institutions. The study examined their educational backgrounds, career progression, experiences and challenges they face or have faced though exploratory interviews. The women in the study are seen as role models to young Kenyan girls and youth who need to build their careers and be effective in their work places. They have indicated that gender stereotypes, gender bias, sex role socialization and discrimination against women in general need to be challenged and dismantled if equity is to be enhanced. This paper therefore also provides recommendations for educational institutions, civil society, private organizations and the government.

1. Introduction.

ICTs have become a potent force in transforming social, economic and political life globally (Hudson, 2001 ; Thioune, 2003:1). Even with this potential, issues of social inclusion and exclusion have emerged as a dimension of the range of critical issues, which need more research and debate as we progress into the 21st century. In particular, there is a need for practical interventions that will shed more light on the linkage between ICT utilization and the concept of human development in general, and on the interface between ICTs and women's empowerment in particular (UNDP, 2002; Rathgaber & Adera, 2000; Adeya, 2001). This paper and the research it is based on set out to increase our understanding of this latter interface.

The international community has made progress in recognizing that the ICT revolution should not proceed as a technologically deterministic law onto itself, but must be shaped by human values. The need to align development in the ICTs arena with human development objectives is now widely accepted. However, to date, these reshaping efforts have been relatively silent on the need to include gender equality and promotion of women's empowerment as central tenets of the transformation effort. There is an urgent need to fill the "gender equality in the ICTs arena" conceptual gap and to develop effective strategies that can encourage concerted action. These steps are needed to ensure that women secure access to the potential benefits of the information and communication technologies (ICTs) and to minimize potential disbenefits associated with the ICT revolution. ICTs cannot fulfill their potential for use as a tool for gender equality,

women's empowerment and human development unless decision-making and participation in the ICT sector undergo fundamental change.(Marcelle 2002)

In the last five years, the spread, acquisition and access to Information, Communication Technology (ICT) has been growing very fast in Kenya. Currently, there is a continued high demand from the public in many sectors to acquire relevant skills to access ICT. This is because there is a close link between such skills and employment and/or career progression in and outside the country in both public and private sectors. The growth of the ICT sector has therefore been phenomenal. This growth has however instigated several challenges for women in the ICT career fields. The employment conditions in ICT work are often unfriendly to women, particularly women with children or other caring responsibilities. Travel to clients and on-site working can also be difficult. Women consequently drop out of ICT employment in particularly large numbers after maternity. (George 2003; DTI 2005)

A recent study in Kenya also indicate that women are highly optimistic, embracing ICT as a practical mechanism for achieving entry into the labour market (Amadi 2007). However, they perceive significant structural barriers, such as public policies that fail to facilitate the development of the ICT sector, gender discrimination by employers, and training that provides them with insufficient technical skills to enable them to effectively perform in the workplace. These findings are largely confirmed by similar studies conducted in other countries (AAUW 2000)

Creating an empowering environment for women to venture into ICT careers as professionals therefore requires that families deconstruct gender stereotypes and roles in society. They need to support girls and women to make informed choices about their careers in ICT – careers that do not perpetuate so called 'sex-appropriate roles'. Gender bias, sex role socialization and general discrimination against women are so entrenched in Kenyan society that individuals (men and women, including policy makers, leaders, and students) think discrimination of women in society in general and in work places in particular is 'natural'. Engendering the policy environment in important sectors like education and labour, and in workplaces and general socialization, is one of the strategies of shifting people's thinking and reducing gender discrimination in the ICT sector, thereby making it more attractive to women who contemplate entering the sector as professionals.(Abagi et al 2008)

2. Methodology

Research based in and inspired by the Critical Emancipatory Paradigm considers and treats research respondents as actors and emancipators and not as research subjects or objects. The distinction between the three research paradigms: the empirical analytical, the hermeneutic interpretive and the critical emancipatory paradigm is based in Habermas' conceptualization of the knowledge interests served in and through social research (Habermas, J. 1972). While generally paradigms are under-determined by methods and methods under-determined by paradigms, there is a convergence of sorts between paradigm and main method with the critical emancipatory paradigm displaying the greatest paradigmatic freedom (Smaling, A., 1994).

The way the research respondents are framed in the critical emancipatory paradigm seems paradoxical in the light of the fact that the social analysis, which motivated the creation of the research question and the action agenda, acknowledges the fact that the research respondents experience structural inequality, disempowerment and lack of social justice. How can one treat victims as if they have the power to change the situation they are victimized by? The commitment however to produce practical, functional knowledge, the type of knowledge that can lead to change necessitates this stance. Only the ones who would have to do the actual changing would be able to lead others (and themselves) to the understandings of what that "changing" would entail (Buskens, I.: 2002). Approaching research respondents in their sovereignty and not in their victimization leads to the type of reflective awareness in respondents that enables the researchers to construct the type of knowledge needed to understand the specific and localized context and dynamics of the change process. This is also the type of knowledge that could be transferred to benefit other situations than the actual research context in the form of reflections, interventions or policy recommendations.

This was an exploratory study that used participatory and interactive approaches that gave researchers and key informants the opportunity to dialogue and build consensus of issues of gender and ICT in Kenya. The study relied on key informants (purposively selected 12 professional women in ICT, either as owners, CEOs or technical persons). Qualitative techniques, capturing the respondents' 'voices', experiences and Open-ended, in-depth and interactive interview approaches gave researchers and key informants the opportunity to dialogue and discuss

Focus group discussions, in-depth interviews and consultative meetings were used to capture the respondents' 'voices', experiences and interpretations of their experiences. This was supplemented by a document analysis of existing literature and fact sheets about selected workplaces and ICT training institutions. Among the main phases of the study was to identify some key informants profiles (case studies), their career development as professional ICT women. Free attitude interviews, transformational attitude interviews and self care exercise were emphasized among the researchers.

3. The influence of Sociological and institutional barriers in achieving gender equity in ICT.

Gender and cultural issues are parallel to explanation by Hafkin, (2003) with focus on career choice, maternity leave affecting future careers, family, cultural issues, economic reasons and political/ government policies. Successful economies of the future will increasingly depend on developing a diverse and inclusive labour market that reflects the population as a whole. The promotion of gender equality and the empowerment of women are pledged as one of eight areas essential for sustainable human development under the United Nations Millennium Development Goals. Gender, and more specifically *women* as a grouping, is one of many social variables

One cultural aspect of gender and ICTs is gender bias in attitudes towards women studying or using information technology. Throughout the world, there are problems in

attracting young women to science and technology studies.The problem is worse in Africa than in any other region. Many (predominantly male) math and science teachers in Africa hold outmoded views that girls can't think or work scientifically and that science is too mechanical and technical for girls, thus discouraging female students (Quaisie 1996). Sometimes collateral cultural factors, other cultural attitudes based in gender bias, and not the immediate gender identification of technology use, prevent young girls and women from accessing and using ICT.

Studies in many countries in SSA have indicated that women are underrepresented and discriminated in formal education and even in school textbooks, especially those in Mathematics, Science and Engineering subject in particular (Obura, 1991; KNEC, 2003; 2004; 2005, Abagi, 2005). Our study of career women in ICT indicates that stereotyping is not only making few women access the sub-sector, but even those who access and are trained in ICTs, find themselves stereotyped and/or just discriminated. The consequence is that some find themselves, despite their ICTs knowledge and skills, placed in 'female' oriented service jobs.

The situation in most ICT & ICT-driven firms is that fewer women work as ICT professionals in the specialist areas such as software development, database, web development, network infrastructure, technical support, telecom engineering etc & these areas tend to be well-respected, very creative & rewarding with excellent opportunities for growth.. There are also fewer women at the top, i.e. top-level management positions within the ICT sector as Chief Executive Officers (CEOs), Chief Information Officers (CIOs), IT Directors or IT Managers. More women need to be in positions where they can influence ICT management & policy. The reality is that most women working in such organizations contribute but tend to predominate in non-technical areas such as customer service, business development, marketing etc & in the technical areas, they work mainly in the routine jobs (lower tech value) working as telephone data entry & desktop publishing operators.

4. Assessing Gender and ICT Career Progression.

The study established that although a significant development has taken place in Kenya as far as ICT is concerned, a major gender divide still exists. Major constraints still hinder women's appropriation, access and use of ICT for their empowerment as compared to men. The ICT sector continues to be male dominated. In general, this is because of policy, institutional arrangements and processes within, for example, ICT operations, which have not been effectively engendered. Whether in ICT as CEOs, managers or technical professionals, the few women in the sector compete favorably with their male counterparts, although pressure of high expectations from both men and women, in a patriarchal society, weigh heavily on them.

In the context of ICT, it is necessary to consider how ICT impact women's multiple roles and examine changes brought about by the new information and communication society on women's and men's gendered roles. Gender role analysis is useful to understanding to what ends women and men utilize ICT (i.e. reproductive tasks associated with educating children, productive tasks associated with work, and community tasks associated with volunteerism), whether use of ICT is time-saving, and whether

women's and men's use of time is different (i.e. does one sex have greater leisure or does increased time flexibility create the potential for more 'double shift' as telecommuting blurs distinctions between private (home) and public (work) domains).

The employment conditions in ICT work are often unfriendly to women, particularly to women with children or other caring responsibilities. The lack of flexible working arrangements and particularly the long working hours in ICT have been widely criticised as effectively excluding other employees who cannot or do not wish to work in this way. Travel to clients and on-site working can also be difficult. Women consequently drop out of ICT employment in particularly large numbers after maternity. They also leave in significant numbers in their 40s and 50s, apparently in order to regain control over their working hours and to work more flexibly (DTI 2005). The challenge, then, is to offer working time arrangements, as well as training and development opportunities, which support, value and sustain ICT workers at all points in their lives and careers. Diversity policies in this area need to intersect around gender and age, where problems are strongly interconnected.

Work cultures as well as work structures can also serve to exclude women from ICT work. Work cultures encompass aspects of everyday life in the workplace and social relations between workers. They include dominant values and behaviour, use of language, social circles and networks. In technical work cultures, women are in a minority, and so are particularly visible for being women, though invisible as technical workers – the norm is a male. "Gender differences don't exist; everybody is white, male and available to work 24 hours a day. Private life is ignored, and those who don't keep up the pace will be passed over." . This can make ICT work at best an uncomfortable and at worst a discriminatory milieu for women.

It is therefore important to recognize that women who enter the ICT profession all look forward to career progression, an enjoyable workplace free of discrimination and harassment, and encouragement to remain in their profession while having other interests and responsibilities. We are not suggesting that women should be promoted because of their gender or without demonstrating appropriate knowledge and skills. However, we recognise that for the ICT sector to continue to grow and provide the innovative solutions that will drive productivity and economic prosperity, we must create an environment and working conditions that encourage women to enter and stay in this industry, or return to it after having a family.

5. Enhancing enabling environments for the success of women in ICTs

In order to ensure that lifelong learning is available to all employees, the development and maintenance of professional skills is a vital element in the continuing contribution of ICT workers to their organisation's performance. Good practice includes ensuring that all workers are able to participate in skills development and maintenance. There are both targeted and universal initiatives that are useful in this respect. Targeted schemes are useful for reaching members of the labour force who have particular development needs and requirements. They are also helpful for women on maternity leave and others on career breaks who are away from the workplace, and who can be included in

company communications and invited to skills development sessions to keep their skills current while they are away from work.

It also important to point out at this stage that the need to diversify ones areas of knowledge and skills and therefore the demand for continuous self-training was not detested by managers and technicians in this study. Although quite demanding in terms of time and resources, the majority of our respondents seemed to enjoy the idea of having to continue acquiring new skills and knowledge and producing different kinds of products. This in itself is quite challenging.

The study revealed that families and relationships with professional relatives had deep influence on the respondents' career in general and pushed them into working in ICT in particular. It was found that parental attitudes towards these women were empowering from early age and were found to be influential in their education and career choices. Education was highly valued in all the families. The parents (both mothers and fathers) encouraged their daughters to work hard and excel in school, yet they did not push them towards any particular academic discipline. They were 'liberal' parents, who exposed their children to many things, provided an empowering environment where education and career development were highly valued. Coming from middle class families, all the participants were supported and given freedom to develop and pursue their own interest.

It was clear from our discussions with the women that having a clear vision and passion to succeed from the early years of schooling are key factors that have propelled most of the women to succeed in their jobs. It also became clear that mentorship received from those they regard as their mentors has supported their sense of determination, vision and passion. One also has to possess these characteristics in order to seek and attract the mentors one wishes to work with to succeed in ICT careers despite gender discrimination and stereotyping. A large proportion of the women we spoke with viewed mentoring as a fundamental aid to women's development9 (Omamo 2009)

Measures we therefore propose include: mentoring and support; providing affordable and accessible training; developing and promoting flexible working arrangements for mothers with young children; enhancing networking focused at women; developing partnerships; promoting positive images /role models of women in ICT; and developing initiatives that target new graduates, care-giving mothers and older women, as these groups face additional challenges.

6. Reengineering gender ICT policies.

ICT policy is currently being made and implemented all over the continent. Unfortunately this is happening mostly in the absence of clear knowledge about the ways gender, inequality and ICTs are impacting each other. Men's and women's attitudes, needs, lived realities and perspectives on ICTs are likely to differ (Rathgeber: 2000). Gender "neutral" policies tend to favour men because of their implicit and unexamined male-centric focus (Hafkin N. 2000; Hafkin N. & Taggart, N. 2001). At the same time, because ICTs enable governments and development agencies to deliver their services more effectively and efficiently, ICTs have the potential to contribute significantly to general development and poverty eradication efforts. They therefore deserve serious attention to prevent them from unintentionally becoming instruments of

women's disempowerment and from broadening and deepening the gender digital divide (UNESCO 2003).

Although the number of women in ICT jobs is rising, this has not necessarily affected women's access to decision-making levels and the control of the ICTs and their resources. Women are under-represented in all ICT decision-making structures, including policy and regulatory institutions, boards and senior management positions of private ICT companies. One problem is that at both the global and national levels, decision-making in ICTs is generally treated as a purely technical matter. ICTs are a fast-changing set of technologies. The impacts of the production and use of ICTs change very rapidly and take unexpected forms in local environments. ICT policy needs to be adaptive and responsive if it is to be effective. This is a challenge to policymakers in both developed and developing countries.

Most men and women in the leadership positions in the ICT sector do not have familiarity with gender equality advocacy issues. Facilitating interaction between these groups therefore requires capacity building and active development of a cadre of dual skilled individuals who can make the case for gender equality in the ICT sector with both passion and competence. The communication process also requires brokers to facilitate regular contact and constructive engagement between ICT decision makers and gender equality advocates. In this regard, gender equality advocacy units in global institutions, within the United Nations system and its specialized agencies, can play a crucial role.

Moreover, very few policy makers are trained to think from a gender perspective and unless they are educated on how to do so at all steps of the process, we simply do not get gender integrated into policy. Training of policy makers (both at the country level and international organization level) on how to engender the policy process is of the utmost importance (Mercelle 2002).Training policy makers may be a useful tactic to help strengthen the arguments of those supporting change, or to break down resistance of those opposing it.

Sensitizing women's organizations and civil society in general to the gender impact of ICT policy issues may pay greater dividends, in terms of awareness raising of a large segment of society to the social implications of technology policy. It is not an easy task because women's organizations and civil society are not accustomed to working in technical policy areas. However, awareness needs to be created that the impact of ICT policy is the realization of the women's right to communicate and access productive resources for their benefit and that of their families. Women and other gender-sensitive individuals need to educate themselves on the technical areas, translating the technical terms into the reality of how the choices will serve people, whether they will serve the few or many and whether they will reach women as well as men. This is the crux of gender analysis of ICT policy.

Another important factor to be considered is that Integrating gender considerations into national ICT policy formulation and implementation will also require strong, effective leadership from the state. African governments should play a leadership role in articulating a clear vision and strategy for ICT development. This should take account of local contexts and legitimate demands for gender justice. Relevant organizations in the public sector, such as line ministries and regulatory bodies, should develop the vision, design the strategy, and undertake the tasks,

working in partnership with other key agents. It is very important that the state be proactive in ensuring that the development of the ICT sector and the application of ICTs proceed in the national interest. Improving the socioeconomic environment for girls and women to enable them to harness these technologies is an important and pressing challenge (abagi et al 2009).

The process is not automatic, and the state must therefore play a crucial role in setting the direction for production and use of ICTs. The government needs to urgently increase democratic space for participation by women alongside men and all stakeholders in the formulation of the whole policy process at all levels. With the creation of the Ministry for Information and Communication, the time is particularly appropriate to ensure the inclusion of gender concerns in the national ICT policy. (Munyua 2006)

To play an active role in integrating gender concerns into ICT development, private-sector organizations can also adopt proactive employment policies that encourage and facilitate the participation of women in a wide spectrum of fields related to ICTs.Marcelle (1999) claimed that civil-society organizations, particularly women's organizations, have been at the forefront in advocating the integration of ICTs and sustainable-development goals and programs. Whenever possible, civil-society organizations should participate fully in consultative processes involved with ICT policy-making.

7. Conclusion

The starting point to level the playing field for women in the ICT sector in Kenya, like in other African countries, is to recognize and isolate the existing gender stereotypes regarding women at different levels: family, school, work place and even in the places of worship. This is because in their current form, such institutions are active vehicles that transmit, inculcate and perpetuate into men and women gendered perceptions, attitudes and behaviour. Without guided self motivation, backed by policy and legal frameworks in education, labour and workplaces, women will not be in a position to challenge the existing stereotyping and discrimination in the ICT environment in which they work.

From an early age girls must be socialized by their family members, existing social and political institutions to take charge of their destiny by challenging the existing gender gaps and stereotypes. This is an empowering process which, in the final analysis, would make such girls informed, brave and ready to venture into a career of their choice based on personal interest or responsive mentoring / role-modelling.

It is our thesis that unless Kenya adopts a far more people oriented education and development policies and strategies, it is likely not to be able to motivate and attract the majority of women to access and appropriate ICT for their own development and that of their communities. Kenya like the rest of other African countries must go beyond the concept of development, as has been set

by conservative thinkers and practitioners that tend to focus only on economic growth, liberalization of trade, democratizing governments**.**

Transformation of the ICTs arena should therefore include a range of focused and strategic actions that are directed at accelerating full and meaningful participation of women in the ICT sector in a manner that promotes gender equality, furthers the empowerment of women and advances overall human development. Although it is expected that the strategies used to transform the ICTs arena will vary ICTs are not considered to be gender-neutral. There is an explicit focus on identifying and explaining the ways in which the ICTs arena is gendered and devising strategies to change gender relations that are disadvantageous for women. It is assumed that women's meaningful participation in the ICTs arena as producers, employees, consumers or users, is influenced by gender relations.

The process of unearthing the gendered nature of the ICTs arena, influencing gender relations and reducing inequality is explicitly deemed to be a political process involving conflict, bargaining and negotiation over change and transformation of power relations as well as access to resources. It is expected that change agents (internal and external) will meet with resistance and will have to devise strategies to overcome resistance. Gender equality advocates who do not have a background or experience in the ICT sector, are unlikely to have regular or natural lines of (Marcelle 2002) contact and communication with decision makers.

In the final analysis, re-engineering our perceptions, thinking and practice will reduce the barriers that prevent women from using ICTs for their own development and for that of their society. Governments, policy makers, the civil society and the private sector and other stakeholders in our countries need to be on board and be empowered to take gender into consideration when developing legal and/or policy frameworks regarding ICTs.

Acknowledgements

This research was made possible by grants from International Development Research Centre (IDRC) through the Gender Research in Africa into ICTs for Empowerment (GRACE) Project. I would also like to acknowledge Okwach Abagi and Olive Sifuna who were part of this research team

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