National Assessments on Gender and Science, Technology and Innovation

A review of four country assessments from East Africa:
Ethiopia, Kenya, Rwanda and Uganda

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Introduction

The overriding objective of the National Assessments on Gender and Science, Technology and Innovation done in the context of the Gender Equality in the Knowledge Society (GEKS) framework is to provide country-level data (quantitative and qualitative) to assess the readiness for and participation of girls and women in the global world defined by knowledge. Our view is that such readiness goes much further than education or any other single factor to include health, social status, safety and security, economic status, resources, agency, and opportunity and capability, all of these accompanied by an enabling policy environment. The test of readiness is in participation in the knowledge society, as measured by such outcomes as participation in decision making, in the knowledge economy, in science and technology (S&T) and innovation systems and in lifelong learning (an essential part of knowledge society for women’s lives at all levels that may provide them with entry to the world of science, technology and innovation (STI) at any point in these lives).

Often there is a oversimplified one-dimensional approach to ending the digital divide and entering the knowledge society, a binary and causal view that one action will necessarily lead and is inextricably linked to the other. The GE&KS framework, on the other hand, aggregates gender-informative data on areas such as health and economic and social status, agency and opportunity in order to assess the barriers and opportunities for women in a world dominated by knowledge economy and society. The analysis shows that many different factors, and the combinations thereof, can either constrain or impel girls and women in this direction.

As recently stated:

GE&KS does not offer simple causal relations to guide specific interventions in the gender and technology fields. Its approach broadens the context of understanding the relationship between gender and technology, anchoring this process with the socio-economic variables modulated by social institutions.¹

The four studies presented here are the ninth through twelfth of the national (and one regional) studies undertaken by Women in Global Science and Technology (WISAT). Organization of Women in Science for the Developing World (OWSD) with the support of the Swedish International Development Authority (Sida) in cooperation with WISAT has supported the collection and analysis of data in these four east African countries on the status of women in science, technology and innovation (STI) at the national level, through the National Assessments on Gender and Science, Technology and Innovation.

They cover four contiguous, but quite different, countries in East Africa of varying geographic and population sizes, ethnicities, and languages, among other factors, as well as differing histories. Ethiopia prides itself on never having been colonized and on thousands of years of written history in its own script and language. Both Kenya and Uganda were British colonies from the late nineteenth century to the 1960s, with different colonial and independence movement experiences, largely because of the large numbers of white settlers in Kenya and the strong position of indigenous monarchies in Uganda. Belgium, whose king had personally acquired the huge “Belgian” Congo, gained possession of next-door Rwanda from German hands after World War I. Some three decades after Independence a long history of antagonism between the two major ethnic groups erupted in the genocide in 1994. Rwanda’s peace and reconciliation over the last two decades now stands out as a major national accomplishment of reconstruction.

All four of these countries are now eager to participate in global economy and society for which STI is the engine. The results of studies can assist those countries in identifying areas of both strength and weakness in their efforts to maximize growth and development with the full utilization of all their human resources.

This report will first identify some common themes that emerge from the four studies and will then proceed to a summary of each of the four country studies and an overall conclusion.
Common themes among the four countries

Good policy, but . . .
Each country had a constitution that declared the equality of men and women, and national gender policies calling for various forms of affirmative action. Only Ethiopia and Rwanda, however, had science, technology & innovation (STI) policies that referred specifically to the importance of the inclusion of women. In addition to constitutional references and general policies in support of gender equality, reinforcement is needed in specific sector policies, such as the importance of the utilization of all human resources as vital to the success of an STI policy. However, in all four countries constitutional and policy commitments to gender equality and inclusion often fell short either in omissions in sector policies, in program and project implementation or through deference to cultural/religious laws and practices on divorce, inheritance, property ownership that uphold patriarchy.

Health status
Throughout women had more difficult health situations overall than men. Women were living with AIDS at three times the rates of men and two times more likely than men to suffering and die from other infectious diseases, especially tuberculosis and malaria. High rates of gender-based violence (GBV, see social status below) were found everywhere, which certainly affected women’s health. Female genital mutilation (FGM) is still widely practiced in Ethiopia (the highest prevalence) and Kenya, but only minimally in Uganda (1%) and not at all in Rwanda.

Sexual abuse of young girls, trafficking, forced labor, servitude were found in all of the countries. Uganda had the highest reported instances of sexual abuse of young girls.

Abortion was illegal in three of the countries with few exceptions, and with unclear status in the fourth, resulting in high rates of death from illegal abortions. Growing contraceptive use has become widespread in three of the countries, with exception of certain remote areas. In Uganda, male resistance remains the major factor in its limited practice.

Social status
All of the countries had predominantly conservative societies marked by patriarchal social structure with unequal gender power relations, deep-rooted cultural and religious practices and widespread age-old gender stereotypes.

High rates of GBV included trafficking of girls. In general women were reluctant to report instances thereof, and when they did, legal and investigative support for victims was often lacking. A large portion of society, including women themselves, regarded wife beating as legitimate. There was also commonly a lack of awareness that GBV is a crime.

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2 While the introductory text to the Rwanda policy makes several references to the importance of women in national life at all levels, the only policy reference to women is “Women shall be empowered to participate fully in S&T development and management.” In 2016, however, the plan was under revision and references to women & gender may become more comprehensive.
**Economic status**
In all four countries there were high rates of women’s labor force participation, including salaried, self-employed and unpaid work. In general women’s work was at lower levels than that of men, and much of it unpaid. All the countries had gender gaps in wages, with women’s equivalent work paid more than 30% less than men’s in Ethiopia and Uganda. In all four countries the numbers of women in salaried employment was low and gender identification of occupations remained in force. Women were far more likely than men to work in the informal sector, and were increasingly becoming entrepreneurs and self-employed, particularly in Uganda.

There were substantial male-female time-use gaps, with women’s workday 15-19 hour days in some countries and sometimes twice that of men. Multiple roles and workloads constrained women at all levels, from those working the fields to women PhD scientists, who publish less then men, largely due to less available time.

Disparities in gender equality were high between urban and rural areas, and were exacerbated particularly by the lack of rural electricity that has a negative effect on women’s participation in anything other than domestic work. Rural electricity rates were under 10% in all of the countries.

Throughout women had low access to credit and loans, although government schemes, micro-loan associations and NGOs are becoming more available. Women’s access to loads was hampered by their lack of titles deeds to the land they work.

**Education**
All four countries have achieved parity in primary education, often with higher retention rates for girls. The situation in secondary education varies from country to country, but with the number of girls rising in all countries. In Kenya, there is parity in secondary enrolment but fewer graduate; in Ethiopia, parity prevails through 10th grade, Reports were numerous of girls staying in school despite very uncomfortable situations in getting to/from school and at school itself, including sexual harassment from students and teachers, mockery for bodily functions, lack of sanitary facilities, and beatings from male students.

At tertiary level, there was no parity in any country but increasing numbers of females in all. The number of women students in STEM remained low, except in biological and health science. Sexual harassment continued at this level, including from male teachers and often led to female students avoiding libraries, study spaces, and laboratories.

Brain drain on the part of both men and women is a serious problem, but marked by lack of data. Ethiopia has the highest rate of skilled migration among the four countries, particularly among professors and doctors. In Kenya and Uganda, more skilled women than men are migrating.

**Technology**
Rates of Internet access and cellphone ownership were lower among women than men, but women were increasing usage of cellphone capabilities beyond voice to messaging and money transfer. Knowledge access may come through mobile education, available on non-smart phones.

**STI**
Rwanda and Kenya had the highest rate on technological readiness of the four while Ethiopia ranked markedly low on this measure. In the area of science, technology and innovation, Rwanda has a particularly strong Women in STI policy, while Kenya has many high-tech woman innovating and sharing their skills and knowledge with others.
**Attitudes/trends towards women in science**

Overall, government actively promoted women in science, but efforts were often impeded by socio-cultural attitudes and lack of support. The Ethiopian STI policy attracts more girls to science at university level, albeit with lower standards and little support, resulting in reinforcing faculty beliefs that women have no ability in these fields. In Rwanda patriarchal attitudes on gender (*this isn’t for girls) keep girls and women away from technical fields.

At private universities females have become the majority of students in several of the countries. However, they are less likely to enter STEM fields at these institutions, which tend to be weak in science and technology education.
Country summaries

Ethiopia

Ethiopia is a Least Developed Country (LDC) in northeast Africa with 98 million people, second in population in Africa only to Nigeria and predicted to be among world's most populous countries by 2050. While never colonized, Ethiopia has a reputation as one of the poorest countries of the world. But it is now on the move; it has become Africa's fastest growing economy, and has been growing rapidly over last ten years – with annual growth rates hovering 10%, and many of its growth areas need knowledge society skills and workforce. Presently its GDP is $1000 per capita (up from $100 15 years ago).

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<tr>
<th>Positives</th>
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<tr>
<td>Numerous policy advances guaranteeing equal rights to women, affirmative action</td>
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<td>2012 national STI policy for more females in engineering, science, TVET</td>
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<td>Increasing numbers of women in public office</td>
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<td>FGM outlawed and dropping</td>
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<td>Strong government policy on gender and ICT</td>
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<td>Lower school repetition rates for girls than boys</td>
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<td>More girls than boys in school through grades 9-10</td>
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<td>Few in formal sector employment, but 60% in manufacturing</td>
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Knowledge Society Inputs

Policy

Along with economic growth, the country has made numerous advances in policy over last 10 years that affect gender. Among the major instruments for gender equality are a constitutional prohibition of gender discrimination and the guarantee of equal rights to women, reforms to the penal code, affirmative action policies for women, the ratification of international women’s, children’s and human rights treaties, and various civil sector reforms facilitating women’s employment. Female Genital Mutilation (FGM) had been outlawed.

Yet there are gaps in policy that impede the participation of women in knowledge society. There is no policy provision against either domestic violence or sexual harassment (nor any definition thereof), although it is experienced by at least half of women. Cultural beliefs that some forms of violence against women are part of the culture, and police are often unlikely to believe claims of rape.

The Constitution empowers religious and customary laws as arbiters of family matters such as divorce and inheritance thereby upholding patriarchal values. When women bring suits in civil courts, they are often challenged by religious courts. The emphasis on decentralization of authority puts legislative power in hands of regional governments whose laws often conflict with gender equity (e.g. family laws that subjugate women).
Health status
While the country has made major advances in prenatal care, little has been done in the postnatal area. In quality and quantity of health care, there are great variations among regions, and by levels of education and income in the quality and quantity of health care with rural women being the most disadvantaged. Women have a higher rate of prevalence and death from HIV/AIDS, tuberculosis and malaria than men, and while reduced, the prevalence of HIV/AIDS in women remains a major concern.

While there have been major declines in maternal mortality – 50% over the last 4 years – the rate is still more than 2 times the MDG goal. Yet Ethiopia is doing better on this measure than Kenya, which is a richer country.

Challenges

- Constitution overly empowers religious and customary laws upholding patriarchal values
- Regional government laws often conflict with gender equity
- Women’s voice constrained due to civil society law
- High cultural overvaluation of boys and men
- High adolescent pregnancy rates
- Low female literacy rate
- Low ICT penetration rate, technological readiness

While FGM has been outlawed and is on decline, it is still widely practiced throughout the country, cutting across religious lines, and with 50% of girls and women having been subjected to it. The rates of adolescent pregnancy were also high.

Social status
According to Dr. Helina Beyene:

. . . the preference of sons over daughters of property inheritance and widespread violence against girls and women indicate an overall culture of overvaluation of boys and men.
. . . gender-based violence, particularly harmful traditional practices such as FGM, early marriages, and abduction, are all too common. [Females] also face high levels of economic, psychological, and sexual violence. Girls’ education is often undermined by sexual harassment, physical violence, and sexual abuse. Secondary school female students especially suffer, often ridiculed during their monthly menstrual cycle, leading them to skip classes. Boys also physically beat girl students when their declarations of love are rejected. Secondary as well as higher education male teachers also often humiliate female students and solicit sexual favors in exchange for good grades. Prosecution and punishment of all forms of GBV, victim reporting, and community awareness of the laws are low; attitudes of male superiority as well as perceptions of woman beating as being a part of the culture persist even at the investigation levels, and support services for victims of violence are extremely limited.

Economic status
Much of women’s work is unpaid – in the home and in the fields, and the sharing of domestic responsibilities is rare. When women enter the paid work force, they get paid less than men for productive work. In almost
all employment sectors, average male earnings outpaced those of women by a large measure. Work associated with men and masculinity also often remains out of reach to women. Gender identifications of work remain in force. Directly or indirectly, the limitation on women’s times prevents them from being wage earners, informed decision-makers, and innovators in knowledge societies.

Women’s economic participation rate of 51% is at just about the global average for females (50.3%) but lower than that of men (at 71%). Many more women work in the informal than the formal sector, and are more likely than men to be unemployed, as is the pattern in developing countries.

**Access to resources**
While there are few barriers to women owning property and assets, they are less likely than men to do so, and the assets that they own are generally smaller than those of men. Their access to credit is limited, and savings low. The male-female gap in resources tends to be less in urban areas. Despite the legal reforms that have taken place, women’s control over economic resources has remained low. Women’s landholding still remains lower than men’s.

Women’s access to formal credit sources such as bank loans remains extremely low compared to men’s because of their lack of regular income, inability to guarantee the loans, and limited access to information. Most women are not connected to the Internet because they cannot afford it.

**Mobile phones**
Telecommunications, especially Internet, is very weak in Ethiopia, largely due to its monopoly control by ET Telecom, resulting in one of lowest information and communication technology (ICT) penetration rates in the world and comparatively low levels of Internet use by either men or women compared to most other countries. Few users, men or women, have mobile phones with Internet capability.

On the World Economic Forum Global Readiness index of 148 countries, the country as a whole scored poorly on technological readiness (123rd), availability of latest technologies (126th), broadband Internet subscriptions (135th), and Internet users (144th). While there is strong government policy on women and ICT, data on its implementation is lacking.

Little information is available about women transport and energy. However, women carry out huge burdens collecting firewood and water daily. Only 8% of rural households are electrified, adding greatly to the workload of women.

**Agency**
Over last decade the political participation of women has been rising, with more women running for office in the last decade. They comprised 22% of candidates in last general election and hold 25.5% of seats in Parliament.

The Charities and Societies Proclamation, generally known as the civil society law, of 2009 has limited women’s voice and agency and crippled NGO women’s groups. Advocacy groups that receive 10% or more of their funding from foreign sources are prohibited from advocating human rights, women’s rights, and democracy, among other subjects.

Contraceptive use has been growing, resulting in a marked decrease in fertility rates (from 7% in the nineties to 4.6% today, and at the population reproduction rate in urban centers) and fewer unwanted pregnancies, but abortion remains illegal. As elsewhere, fertility rates correlate strongly with levels of education.
Opportunity and capability
The national literacy rate for women is very low by global standards at 41% (with sub-Saharan African averaging 52% adult women illiterate). The rate is also low in terms of gender parity in literacy rates, with UNESCO ranking women in Ethiopia in the “most disfavoured” category globally. Perhaps surprisingly, only 72% of women in the wealthiest quintile are literate. Gender parity has been reached in primary school enrolment, and girls are as numerous as boys in technical and vocational education and training (TVET). By 2011 girls’ enrolment overtook that of boys for grades 9-10 (ending with the Ethiopian school leaving exam, the EGSECE).

Females lag behind in higher education, though, constituting only about 30% of students. Girls who do attend school do well with lower repetition rates than that of boys at both primary and secondary levels. There are high girls’ primary school dropout rates in some areas of the country, particularly in the eastern Afar and Harari areas.

Of the 42% of those over the age of 10 who never attended school, more are girls than boys. Among adult females 25 years and older, only 7.8% have had at least some secondary education, compared to 18.2% of males. However, there are wide regional variations in these percentages. Rates of school attendance are much lower for girls in rural areas than in urban areas at secondary or higher (7% rural girls/women, and 38% urban).

Unlike at primary and secondary levels, a large gender gap remains in higher education. Females comprise about 28% of students at government universities, and 43% in private ones. (This is a pattern elsewhere—girls comprise 56% of private university students in Kenya). Factors that explain high female enrolment rates in private universities include heavy emphasis on arts and social science and parents’ perception that these institutions provide safe and enabling learning. Few private universities offer science and technology (S&T) related courses. Where they do, girls tend to concentrate in nursing. Consequently, private universities have not contributed much to addressing the problems of female enrolment in S&T subjects and in higher degrees. Also, as high fee-paying, they attract girls from wealthier backgrounds.

Males receive on-the-job training at twice the rate of women. Only one percent of rural women receive such training, and only 2% overall receive entrepreneurship or business training. Of these, 65% didn’t turn it into employment, with most citing lack of capital.

Knowledge Society Outcomes
Knowledge society in general
The national Growth & Transformational Plan (GTP) for 2010-2015 aimed to transform Ethiopia into a middle-income country by 2025 through *inter alia* adoption of technology and increased STEM capacity. Many aspects of this were directed to women.

Knowledge society decision-making
Women comprise 26% of managers, and 14% of chief executives. Most women in these positions work in hospitality, retail, and service fields. No information is available on women in decision making in private sector business.

No women serve presidents or vice presidents of universities, and they comprise only 5% of deans and 3% of department heads at university level at public universities.

Knowledge economy
Women account for 30% of professional workers, with higher than average percentages in health and ICT jobs, the latter testifying to a lessening gender-identified occupational composition among young highly educated workers. However, women are almost absent from the workforce in science and engineering
There are women more than men in business administration and ICT technical and professional positions but it is not clear if these figures include administrative positions.

Women comprise 45% of the agricultural labor force, 65% of the service sector and 46% of industrial labor force, with 60% of those employed in manufacturing. The latter figure may result from the fact that women factory workers are lower paid than men. In professional, scientific and technical subsectors of industry, women comprise 30% of those employed. Perhaps surprisingly, 41% of the ICT manufacturing sector workers are women. The gender wage gap is substantial across industries and sectors. Males earn 46% more overall, and 39% more even in ICT, presumably with similar levels of education and qualifications. This is the largest gender wage gap of the four east African counties, possibly reflecting the cultural pattern of overvaluation of males. Large numbers of women workers are found in the health field, but concentrated in low and mid- levels of the health workforce.

**Women in STI**

Since the inception of the national Science, Technology and Innovation Policy in 2012, public university intakes have been pegged at 75:25 S&T to social science and humanities, with explicit calls made for increasing females in engineering, science, and at TVET institutions.

It will be difficult to deliver good results from this emphasis unless investments are made in supporting entering students in view of their low standard of preparatory education. In the 2103–14 in the Global Competitiveness Report, out of 148 countries ET ranked 108th for overall quality of its educational system, and 109th in math & science education. Women are now only 27% of those in STI fields, where positive role models for them are sorely lacking, since 80% of public university faculty in science & engineering are men. There are fairly high numbers of women students in natural/math science, medicine and health, but few in agriculture, engineering, and technology. Notably females comprise 39% of those enrolled in Information Systems. Attrition rates are high for women university students in science due to the negative reception of their presence by their peers, women's own attitudes about STEM fields, and administrators’ and faculty members’ unsubstantiated beliefs about women’s lack of ability in these fields. The women themselves often have weak academic backgrounds, lack support from instructors, and suffer from an absence of female instructors/role models. Sexual harassment of girls in education continues at university level. Respondents reports that male teachers solicited sexual favors from female students, and female students felt like there was no recourse available to them to seek justice because of a hostile administration. Consequently, female students reported no longer going to libraries, laboratories, study spaces, and entertainment spaces, impacting their ability to fully participate in the knowledge society.

There is a dearth of data on women researchers, their output or innovations. Awards have been designated for female innovators but hardly any competitors have emerged.

Ethio Telecom has knowledge centers in village and towns and has promoted women's use thereof, but no data is available on women’s use thereof.

**Conclusions**

Government policy on the whole is very good but there are gaps in the implementation of policy and constraints posed by deference to regional legislatures, religious and customary laws and outdated gender stereotypes. In addition there are contraindicating policies, notably the Charities and Societies Proclamation that has stifled women’s organizations and gender advocacy.

Government action has led to advances in health, but women in Ethiopia still rank low on global health indices. Females continue to face high levels of economic, psychological, and sexual violence. Despite being illegal, FGM is still widely practiced. Girls’ education is also often undermined by sexual harassment, physical violence, and sexual abuse. Community awareness of the laws is low and attitudes of male
superiority as well as perceptions of woman beating as being a part of the culture persist even at investigation levels, and support services for victims of violence are extremely limited. All of these factors impede women’s possibilities for full participation in the knowledge society.
Kenya

Kenya is a low middle-income country (it was never an Least Developed Country) on the Indian Ocean Coast of East Africa, with a population of 44.3 million and a per capita GDP of $1600 GDP.

Despite its generally excellent policy both on knowledge society development and on gender, Kenya sometimes falls short in the area of implementation of policy and in social and cultural attitudes and practices interfering with the achievement of gender equality as it moves towards a knowledge society. The major factors that impede women’s full participation in the knowledge society in Kenya are the level of women’s education, whether they live in urban or rural areas, geographic and ethnic factors, patriarchal cultural attitudes, and lack of infrastructure to implement positive government policy.

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<tr>
<td>Women in Kenya active in appointed, private sector leadership and decision-making</td>
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<tr>
<td>High percentage (for Africa) of women directors of boards, companies</td>
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<td>Women in leadership positions at leading universities</td>
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<td>Government policy to become “Silicon Savannah”</td>
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<tr>
<td>Numerous women involved in S&amp;T innovation (Juliana Rotich -Ushahidi, Isis N'yongo, AkiraChix)</td>
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Knowledge Society Inputs

Policies towards Gender Equality in the Knowledge Society

These include:
- The 2010 Constitution based on equality for all and practicing affirmative action to achieve it
- The National Human Rights and Equality Commission
- The 2011 Gender Policy of Kenya
- Vision 2030 with STI as key to accelerate the economy
- Government promotion of “Silicon Savannah”
- A goal limit of 2/3s of one gender in any elective or appointed body (state or county)
- Free & compulsory primary education
- Reduction in FGM & early marriages
- Implementation of Vision 2013
- Sexual Offences Act of 2006

However, progress is impeded by the lack of government infrastructure to implement, monitor and evaluate gender policy. The Ministry of Gender, Children and Social Development was established in 2008, but in 2013 it was folded into Ministry of Labour, Social Security and Services in 2013, where gender is not even a department, resulting in gender becoming a side issue.

Health status

Malaria and pneumonia were responsible for more deaths among women than HIV/AIDS and cancer. While rates for HIV/AIDS among women are relatively low for eastern/southern Africa at 3%, only 38% of those living with AIDS received antiretroviral therapy. Life expectancy has been increasing among both men and women, but at a higher rate among women. Female life expectancy has increased from 55 years in 2006 to 63 in 2013, a four-year advantage over men.
There has been a significant decline in the Total Fertility Rate in Kenya from 8.1 per woman in the mid-1970s to 3.9 births in 2014. As elsewhere, these rates vary by income, levels of education and whether women live in rural or urban areas.

Abortion is illegal, except when the mother’s life is in danger, and marked by a very high rate of death from illegal abortions. Contraceptive use has become widespread, except in the northeast region of the country. While instances of FGM have decreased, the introduction of trained health service providers has resulted in legitimizing it. Twenty percent of women in Kenya have been circumcised, but the number of adolescent girls affected has dropped by half in the last 30 years, and Kenya hopes to eliminate the practice entirely by 2030.

Given very low rates of rural electrification (5%), cooking with biomass fuels lead to health problems. Kenya is a regional leader, however, in developing and distributing clean cook stoves. However, there has no mention of gender in energy policy.

Kenya has national health insurance for both for those in salaried employment and the self-employed, financed by paid contributions. The low level of health infrastructure, particularly the availability of doctors, poses major challenges to health care delivery.

GBV
This is a major issue for women in Kenya. Major forms of gender-based violence including assault, rape, defilement, sexual harassment, emotional abuse, and female genital mutilation, occur at both domestic and institutional levels. Reports cite one woman being raped every 30 seconds. 60% of women report having experienced domestic violence. Half of the victims are minors where incest, are child defilement are documented. Reporting of GBV is low, as it is in many other countries, as well as police and justice system follow up. GBV on public transport is common. While there is strong policy on domestic violence, cultural norms work against its eradication. More than 40% of all women believe that a husband is justified in beating his wife, and GBV is regarded as culturally acceptable by a majority of those with low education levels.

One-third of all children aged 5-15 years of age are involved in child labor, with the majority of these being boys. Girls, however, are more likely to be employed in domestic service.

Challenges

- Lack of core government agency charged with gender
- Ministry of Gender, Children and Social Development established in 2008 but folded into Ministry of Labour, Social Security and Services in 2013
- Marriage law “Equal rights in Marriage” says first wife can’t veto additional spouses; man can marry as many women as he wants.
- Geographical differences: major gaps in gender equality in coastal area, northeast
Social Status
Kenya ranks first among the “low human development” countries in the 2015 UNDP Human Development Report on the basis of progressive laws and policies, free and compulsory education, reduction in FGM and early marriages and implementation of its Vision 2030. However, the ranking is very different on the UNDP Gender Inequality Index (2015) where Kenya ranks 126th out of 155 countries, due to deficiencies in reproductive health services, maternal mortality (still 3.5 times the MDG target), and adolescent birthrates, as well as low inclusion of women in parliament, three times higher HIV/AIDS prevalence for women than men, and a 20% higher rate of disease in general.

Cultural factors
Entrenched patriarchal practices impede gender equality in many areas. The marriage laws of 2013/2014 entitled equal rights in marriage, but enshrined the right of men to marry as many women as they choose, as the first wife can no longer veto husband taking on additional spouses. Inheritance is equal under the law, but judges who defer to customary law, especially for the Islamic community that does not recognize equality in inheritance, do often not recognize this equality.

Education
25% of women are illiterate, a higher figure than that of men. The gap is much higher on the Indian Ocean coast and in the northeast. Since the introduction of free primary education, there is gender parity up until secondary school, with 83% of girls of school age enrolled. This percentage changes significantly with enrolment in secondary and higher education. Then girls tend to drop out because of parents preference for boys’ education, school fees, sexual harassment, pregnancy, early marriage, and sanitation issues. Girls’ retention rates at secondary level are also lower than boys, which is reflected in post-secondary education numbers, where female students numbers are one-third less than those of males.

STEM
Girls are enrolled in TVET in large numbers, with a disparity of only 7% to boys. Government has a program of gender affirmation to increase the number of female students.

At tertiary level, the picture of women in STEM is not good. Graduating female students in engineering, manufacturing and construction in 2012 comprised only 5.9% of students. In all science programs, the rate for female students graduating was 9.5%. While nearly double that of engineering and related subjects, that figure includes biology in which female students are frequently the majority. The gender disparity in engineering studies carries through to the work force, where the percentage of women about registered engineers is 3.2%

Adult literacy, lifelong learning
Women participate active in adult literacy programs, comprising 60% of adherents.

Economic Status
While the number of women within the formal wage-earning economy has been increasing over the years, there are still a more men employed within each of the formal sectors. Furthermore, where women are employed within the formal sector, they do not earn as much as men, a gap that needs to be closed for Kenya to attain wage and employment equality.

The labor force participation rate for women in Kenya over the age of 15 is 62.2%, substantially above the global average. Only one-fifth, however, are salaried workers. The others work in small businesses of their own, and in agriculture, where most are unpaid contributing family workers, but responsible for 80% of and 50% of cash crop production. The number of female salaried workers has been increasing steadily. Women in wage labor are concentrated in the service sector, with education being the largest employer. Female
employees are entitled to three-months of fully paid maternity leave and a guarantee of the right to return to the job after its completion, a provision that has kept some employers from hiring women.

The gender salaried wage gap in Kenya is relatively low (at 8%) compared to many other countries. However, women the percentage of women in salaried employment is low, and they are more likely than men to be engaged in low-wage work. There is no government provision for childcare for children under three years of age. Women in the informal sector often take their children to work, while alternatives are difficult to find or afford for those working in formal employment. Given the challenges of childcare and the need for flexible working hours, many women are attracted to form their own micro and small enterprises rather than seeking paid employment.

Only 7% of women are able to access formal credit due to lack of collateral and title deeds to the land they work, as a result of customary law. However, the Women’s Enterprise Fund, established through the Gender Policy, and a number of licensed microfinance banks plus local micro credit institutions, NGOs and community-led women’s groups all provide credit to women’s businesses in Kenya, but much more is needed. Very few agricultural extension services are available to women.

While there are no recent sex-disaggregated time-use surveys in Kenya, both rural and urban women work a double workday, with productive and reproductive labor demands. Additionally, women are burdened with the care for the sick, elderly and dying.

**Knowledge Society Outcomes**

**STI sector**

Women in Kenya are important actors within the STI sector in Kenya and are particularly prominent in high tech innovation and promoting gender and social equality therein. Leading women include Juliana Rotich, founder of the globally-known mobile crowd sourcing crisis application Ushahidi, Isis N’yongo, Vice President and Managing Director of the African operations inMobi, an independent mobile advertising network, Judith Owigarco, founder and president of Akirachix, an organization that seeks to promote the role of women within the African technology sector and that provides technology training to girls in poor urban areas of Nairobi and Jamilla Abbass, co-founder and chief executive of M-Farm a software solution and agribusiness company that helps farmers, particularly women, increase their earnings by improving their access to markets. The Safaricom Women in Technology Kids Go Tech secondary school program encourages girl students to pursue technology careers.

**Brain Drain**

The skilled emigration rate of women at 50% is much higher than that of men (38.5%). It is difficult to find data on this indicator, but evidence exists that many of the skilled women emigrating are nurses because of low salaries and difficult working conditions in Kenya in comparison to labor shortages, attractive salaries and improved conditions elsewhere.
Technology

Kenya has one of the highest rates of mobile penetration in sub-Saharan Africa with women almost equal to men in mobile telephone ownership and use, purchased largely with their own funds. Kenya is also a leader in the mobile money sector, mainly through M-Pesa, used by fully one-half of Kenyan women. Women are becoming increasingly more sophisticated in their use of mobile telephony, moving beyond voice calls to SMS and to accessing the Internet. The technology is a major boost to women’s security, health information, economic opportunity, citizen engagement, and lifelong learning.

Knowledge Society Decision-making

Kenya has a high percentage for Africa of women directors of boards and companies, at around 20%. The 2010 Constitutions promoted the cultural shift within companies to increase the number of women on corporate boards. Women are also well represented in leadership positions at leading universities, holding chancellor (or chairperson) positions in half of Kenya’s top six universities, with women vice chancellors at the other three.

As in many other countries, female membership in the National Academy of Sciences is low, with only 17.5% women senior members. However, 55% of the young members of the Academy are women. 20% of researchers in science were women in 2010, a significant and growing number.

Conclusion

Kenya has an excellent enabling environment for women in the Knowledge Society, but Kenyan women are far from attaining equality in many areas due to institutional, structural and cultural barriers, as well as social, health and economic disparities.

Overall, women still lag behind in many areas, especially with cultural (patriarchal attitudes and traditional practices), health and economic factors playing a role in limiting women’s ability to be equal knowledge society partners. Much work is needed especially at community level to achieve this.

There is a need for gender analysis in all policies, collection and use of sex-disaggregated data, and the establishment and utilization of gender-sensitive benchmarks and indicators for monitoring and evaluation.
Rwanda

Rwanda is the most densely populated country on the African continent. Geographically tiny (about half the size of the Netherlands), it has a population of more than 11 million people. Women number 4% more than men, a gender imbalance resulting from 1994 genocide. Like Ethiopia, it has experienced tremendous economic growth over the last 10 years, averaging 7-8%, and leading to a major decrease in poverty.

Rwanda as a standout

- Superb policy, along with implementation, monitoring and evaluation
- Impressive array of policies, structures, institutional and non-institutional arrangements and monitoring and evaluation of gender equality
- Low rate of gender inequality
- Highest % of women parliamentarians globally (58%)
- High levels of women’s participation in decision-making at all levels
- High involvement of women in peace-building (post-1994 genocide)
- Large reduction in maternal and infant mortality rates, rise in life expectancy
- Parity boys/girls in primary school enrolment and retention

The Government of Rwanda has invested great efforts towards mainstreaming gender by setting up an impressive array of policies, structures, institutional and non-institutional arrangements and monitoring and evaluation mechanisms. It has made notable achievements in:

- Political representation on the political front
- High level of women participating in decision making organs
- Recognition of and assistance to victims of gender-based violence
- Revision of discriminatory laws and enactment of gender-sensitive laws
- Leading role of women in post-genocide peacekeeping operations and peace-building
- Reduction in maternal and infant mortality rates
- Parity between boys and girls in primary school enrolment and retention
- Women’s access to land

Rwanda has registered low rates of gender inequality on the UNDP Gender Inequality Index for countries of its economic status. Rwanda’s overall ranking was 80th among 155 countries of the world, including “high development” rich countries, while the other three countries under study ranked 122nd (Uganda), 126th (Kenya) and 129th (Ethiopia), respectively.
In addition, 50% more women than men lack capital or collateral for loans or other financing, one-third more women than men are working unpaid in subsistence farming, women bear the burden of unpaid care and household work and the persistence of patriarchal attitudes and outdated gender stereotypes keep girls and women away from technical fields.

With regard to implementation of policy, challenges include limited capacities in gender analysis and gender mainstreaming at various levels, limited engagement of the gender machinery to assist other institutions, and insufficiency of gender and sex-disaggregated data.

### Challenges

- Underrepresentation in leadership (outside of politics), especially in education and employment in STI
- High degree of rural-urban social inequality
- Most women working in agriculture (82%), unpaid or lowly paid
- Patriarchal attitudes constraining girls’ entry into technical fields
- Women 45% of all university students, but 21% in engineering
- Low rates of Internet use among both men and women
- Very low rates of rural electrification (7%)
Knowledge Society Inputs

Policy
Rwanda stands out for its excellent gender policy environment. Rwanda identifies education, female participation and decentralization as its key drivers to achieve economic growth and human well being, through the engines of science, technology, research and innovation, therefore putting women in the core of the advancement that Rwanda seeks in STI.

Gender equality is provided for as a human right in the constitution and as a development goal in national legal and planning instruments. The Government of Rwanda has put in place (and continues to improve) well elaborated institutional and non-institutional arrangements for implementation of gender equality policies, totaling some 53 policies and enabling frameworks to accelerate attainment gender equality. Gender mainstreaming is to be implemented through flagship programs in economic empowerment, good governance, and justice and social welfare.

Most notable in the policy area is the National Gender Policy (2004). Prior to its promulgation the Ministry of Gender and Family Promotion was established in 2003 as well as Women’s Councils at both national and grass-roots level that served as forums for women’s empowerment and participation in national development, women’s rights and gender equality, and mobilizing women.

Rwanda is unique in the investment it has made in monitoring and evaluation progress in gender mainstreaming, the part of the equation relating to policy implementation and results that has been lacking in many other countries. The lead office on this is the Gender Monitoring Office that has developed gender-specific performance indicators and a comprehensive monitoring and evaluation system. It holds other institutions accountable for the achievement of gender goals and has taken the lead the collection of gender data and in monitoring progress to eliminate GBV. However, capabilities in collecting gender data have been weak in other ministries and at the district level.

Among Rwanda’s achievements with gender benefits of the last two decades are:
- Savings and credit schemes (45% women participants), increased access to loans, and off-farm jobs
- Attainment of almost all the MDGs (rare in Africa).
- Performance-based financing (PBF) of health services along with almost universal health insurance “Mutuelle de santé”
- Increased life expectancy from 51 (2002) to 64 years (2014) for both men and women
- Maternal mortality drop from 740 to 476 (though still high)
- Drop in fertility rates from 6.1 to 4.2 (lower in urban areas).

Health status
In addition to the gender benefits reported above, Rwanda has had substantial accomplishment in combating HIV/AIDS. While women have a slightly elevated rate of its prevalence over men, the incidence has fallen below one percent in the last several years. Malaria and tuberculosis have also seen dramatic drops in incidence.

Gender-based violence
Data showed that about a third of Rwandan women had experienced domestic violence in their lifetimes (a much smaller number than in some of the other East African countries). To support GBV victims, Rwanda has established nine centres across the country called “One Stop Centres, free-of-charge referral centres
that offer comprehensive services to victims to include psychological support, medical care, legal and judicial-related support. However, greater resources are needed to ensure the efficacy of these centres.

Social status
In addition to the high rating in gender equality, social status indicators showed that in Rwanda, movement was free for women, there was no specified dress code for women, FGM was not practiced, and there was no evidence of son preference. Also women had good access to land, and early marriages had become rare, but parental authority over girls and polygamy were partially prevalent while violence against women was rampant.

Education
Rwanda has achieved a 90% enrolment rate for both boys and girls in primary school. There are more girls than boys enrolled in both primary and secondary school (a rare occurrence in Africa). At 8%, the gap between female-male literacy rates (female, 65%, male 73%) is lower than in the other African countries assessed. While there are fewer females than males at the tertiary level of education, the imbalance seen in other countries between private and public universities is repeated. In Rwanda women are 53% of students in private universities (which generally are much weaker in STI than public universities), whereas they are only 34% of students enrolled in public universities (which tend to have more stringent entrance requirements). Overall, female students comprise 45% of tertiary level students. In STEM at tertiary level female students accounted for 32.3% of graduates in 2014, a higher percentage than the other East African countries studied.

Fewer women than men get on-the-job training, although this is improving. In vocational training (TVET) women tend to be in traditional female programs that have poor employment and low wage prospects.

Knowledge Society Outcomes

Political representation
Women in Rwanda have the highest rate of parliamentary representation in the world, comprising 56% of members of parliament in parliament overall, with 64% in the lower house. In the cabinet in 2014 40% of ministers and subministers were female. Their numbers are similarly high in local government.

Labor force
Women’s labor force participation rate (72%) is high, but most work in agriculture (82% of women working), where their labor is mostly lowly paid or unpaid. More women than men work in agriculture. A high percentage of both men and women are in self-employment, with much smaller numbers in the salaried labor force.

Decision making positions
The constitution states that women should hold at least 30% of all positions in government and other decision-making positions. While we have seen high numbers in elected office, this does not always carry over to appointed and hired positions. Although in some government and business positions this quota is observed on the aggregate, gender stereotyping is still prevalent. For example, women are 80% of vice mayors for social affairs but very rarely found as mayors or vice mayors for economic planning. It is unusual to find women in decision-making positions in the education sector.

Technology
The Rwandan government has taken a number of outstanding initiatives to encourage women in ICT use and employment at several levels. The Ministry of Gender set up Multi-purpose Community Centres to promote public access to ICTs and Internet in women’s centers through Rwanda. The government also launched a public awareness campaign to encourage women to seek employment and entrepreneurship in the ICT industry and set up a loan scheme to assist women in establishing ICT businesses and to increase
women’s representation in leadership and management positions in the ICT sector. Other initiatives trained women in ICT skills, web content development and involved rural women in the development of ICT policies. Many tertiary-level institutions implement an admission policy that recruits women into ICT-related programs.

Internet and mobile phones
Rates of Internet usage on a regular basis were low for both men and women, with women coming in at slightly lower levels (7.2% to 5.2%). More men (60%) regularly access mobile phones than women (41%) but women’s access and use levels were still relatively high. There were barriers for girls and women to access ICTs, social-economic-cultural issues in women’s and girls’ use of mobile phones and cybercafés and women’s limitations to use public access centers, as have been identified in many developing countries.

As in other the countries of the region studied, access to electricity was very limited in rural areas.
Uganda

With a population of 40.1 million and a per capita GDP of $1400, Uganda is a landlocked country, with Kenya as its eastern neighbor and tiny Rwanda to its southwest. It has always been regarded as an educational leader in east Africa, with high levels of proficiency in English and an outstanding national university (Makerere).

Uganda has made progress in several areas towards promoting gender equality in the knowledge society such as girls' access to primary education, health status and women's entrepreneurship. More women are participating in politics. However, the status of women in Uganda is affected by high poverty levels, low literacy rates, limited access to resources, inadequate institutional capacity of national gender mechanisms and law enforcement agencies and negative socio-cultural practices that foster violation of women's rights.

The status of women is negatively affected by high fertility (working against increases in family well-being and girls' education), high rates of HIV/AIDS, low salaries, lack of credit, poor nutrition, and (as a result of the high HIV/AIDS rates) child-headed households. Women are most numerous among unpaid workers and work the longest hours. Their long working day leave no time for self-improvement or income generation. These conditions affect both poor, uneducated women and the highly trained. There is a high rate of brain drain among skilled Ugandan women.

<table>
<thead>
<tr>
<th>Positives</th>
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<tr>
<td>Conducive atmosphere for women in political leadership</td>
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<td>Required representation of women in parliament, local councils, as ministers</td>
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<tr>
<td>Decrease in HIV/AIDS prevalence</td>
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<td>More girls studying science at university, women science researchers</td>
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<td>Women in academic leadership, on public boards</td>
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<td>Women lead in entrepreneurship and ownership of businesses</td>
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Knowledge Society Inputs

Policy

The constitution of Uganda provides for the recognition of the rights of women and promotes and protects social justice and equality of all Ugandans, while the Uganda Gender Policy (2007) promotes gender mainstreaming in all government ministries and districts local governments, mandating numbers of women in leadership positions. In addition, important pro-women’s rights legislative measures include the Prohibition of Female Genital Mutilation Act, Trafficking in Persons Act, and the Domestic Violence Bill (all 2010) as well as other laws on customary marriage, landholding, divorce, NGO registration, HIV/AIDS prevention and control and the establishment of an Equal Opportunities Commission.

While Uganda has strong gender-sensitive policies and legislative measure, problems remain in implementing existing laws and policies. In addition, Uganda is acutely short of policies and initiatives aimed specifically at empowering girls and women for participation in the knowledge society, as well as lack of harmonized efforts to exploit ICT sector opportunities. Civil society organizations have played a large part in advocacy and influencing policy reforms to fill the gap in participation of girls and women’s participation in the Knowledge Society.
Health status
Both men and women have improved their health status over the last two to three decades, especially in infectious diseases, but life expectancy is still relatively low overall. Maternal mortality is still high (the majority of deliveries are at home). HIV/AIDS prevalence is down to 7.3%, with women being more 18% numerous than men among persons living with AIDS as a result of socio-cultural norms that support early marriages and child bearing, polygamy, cross-generational sex, domestic violence, and extramarital partners for men. Rates of TB are still high among women, as are rates of malnutrition that limit girls' achievement.

Gender-based violence
Rates of gender-based violence are high in Uganda. 56% of women from age 15 are reported to have experienced physical violence, and the rate of sexual abuse of young girls is also high.

Challenges
- High rates of gender-based violence
- Lack of gender policies in KS, ICT
- High maternal mortality and infectious disease rates
- World’s highest fertility rate
- Low rates of land ownership
- Low rates of Internet connectivity

Social status
There exist unequal inheritance rights, early marriage, violence against women, and unequal land and property rights, son bias, restrictions on access to public space and restricted access to productive resources. Traditionally women are supposed to remain in the domestic arena as sexual objects and mothers, not economically empowered. These stereotypes prevail in many areas. In some areas widows still must marry the brothers of their deceased husbands.

The majority of Ugandan women live threatened by domestic violence yet most still do not consider it a crime. Other women and girls have endured FGM (now illegal), and hundreds are trafficked each year into prostitution, forced labor, slavery or servitude. In spite of all these occurrences, there is gross underreporting and limited access to justice on this phenomenon.

Economic status
Women in Uganda have a very high rate of entrepreneurship and ownership of registered businesses. Although women take the lead in entrepreneurship in Uganda, self-employed women earn significantly less than men. Female entrepreneurs have the double work of running an enterprise and doing household chores; this limits the time they can devote to their businesses and affects the choice of a business, excluding activities demanding more time and mobility.

In paid employment women earn at least 30% less than men. There is a continuing debate in Uganda as to the extent to which the gap reflects merely the inevitable and fair result of differing work patterns and behaviors by women and men or the impact of employment discrimination against women. In general, women’s low wages reflect their limited education levels, with implications for household welfare as well as for national economic growth. The average workday (for both paid and unpaid labor) is 15 hours for women
and nine for men. Labor force participation rates, including informal sector and subsistence farming, are 7% higher for women than those for men, a rather unusual statistic. Large numbers of women working in farming may be upset by recent land sales to outside investors. 70% of women work in agriculture, but only 20% own land, and even then men exercise decision making rights over it. Only 10% of women work in salaried employment.

Segregation of women into lower-paid jobs has resulted in the feminization of poverty and increased violence against women. Women account for a majority of the poor, underemployed, and undernourished. Most female workers in Uganda are either unpaid workers or self-employed in the informal sector.

**Access to resources**
Despite the legal reforms that have taken place, women’s control over economic resources remains low.

**Land**
The law guarantees men and women equal rights to own, use and control land; but customary law, based on patrilineal kinship systems and customs, frequently overrides civil law. Customary laws prevent women from inheriting or administering their non-land property without their husbands’ consent. This lack of assets also prevents women from having access to credit. Women’s land ownership still remains lower than men’s, but their chances to own or rent a house are equal or in some towns and regions, and sometimes even higher than that of men, especially in the urban areas.

**Credit**
Women’s access to formal credit sources such as bank loans remains extremely low compared to men’s due to lack of regular income, inability to guarantee the loans due to lack of collateral and limited access to information. Women’s access to credit has been improving recently though.

**Transportation and energy**
Women constitute 70% of those traveling on public motorcycles that provide cheap but dangerous transportation. 70% of households have limited or no access to electricity. As the primary beneficiaries of electricity in the homes, this lack of access limits women’s overall possibilities to be part of a knowledge society.

**Technology**
Fewer men than women access the Internet. The gap is primarily urban-rural more than male-female. Costs for broadband connections are high. Most women are not connected to the Internet because they cannot afford it. In recent survey only 3.5% of women in Uganda knew what the Internet was. Women are 23% less likely than men to own a cell phone.

**Contraceptive use**
Uganda has the highest fertility rate in the world at 6.2 children per woman. Contraceptive use is not widespread, on the basis of male resistance to it. Cultural influences still favor large families and early marriage of girls.

**School enrolment**
Uganda faces challenges in achieving the MDG targets related to education for girls despite advances in primary education. There is gender parity in primary school enrolment levels but completion rates for girls are low. Figures also fall for secondary and tertiary levels, where only 1.5% of girls are enrolled. Nearly 40% of female-headed households lack formal education. Women’s literacy rate is notably lower than that of men (62% to 70% for men).
Knowledge Society Outcomes

Knowledge society decision-making
There is a relatively high number of women on public boards. While the figure for women on public boards is 30%, it is only 13% on the boards of private companies. In academic leadership positions men prevail. The one woman vice-chancellor of a public university is the first woman in Uganda to hold this position. One private university also has a woman head.

Knowledge economy
There are few women in decision-making positions in the knowledge economy, the civil service or public sector bodies.

S&T Innovation Systems
The number of female students studying science (of all kinds) at tertiary level has increased substantially. With a national target of 35%, their enrolment is now at 33% overall and 44% at Makerere, the country’s leading university. Women also comprise 40% of science researchers. New initiatives and campaigns are striving to combat the traditional discouragement that women face from participating in STI because others see them as being “too hard” for women or “men’s fields.” Women academics and researchers tend to have a smaller number of published papers than men, probably as a result of women’s multiple roles.

Brain drain
Skilled women are migrating in large numbers and at 1.5 times the rate of men. Their departure is particularly high in the health sector.

Women and lifelong learning
Women users of public access information centers are less likely to read English than men, and are thus frequently frustrated in their search for relevant content. In addition, they face discrimination from the center managers, leading to their discouragement. Often, they go home never to return.

Women’s Agency
Uganda has a relatively conducive atmosphere for women in political leadership, The Ugandan government has taken particular care to increase the political participation of women -- requiring one female representative in parliament for each of the 112 districts. Women must also make up 1/3 of ministers and of local councils. While policies have brought about major gains for women in local and national representation in recent years, they are still not commensurate with their numbers. Women’s participation in public administration and its decision-making positions has continued to be less than men.

Significant cultural challenges still exist. Women in political careers for instance are often judged by their social and fashion choices, with the media focusing on their appearance. Marital status and their romantic lives are a subject of much interest to the general population and the media, perhaps more than their positions on different issues.

Women in trade unions
40% of union members are women, but they are not proportionally represented in union leadership.

Women in knowledge society decision-making and in leadership positions
Women in management, leadership and other positions of decision making in business communities, academia, parliament, and organizations continue to face challenges including balancing work and family obligations. This results in limited access to opportunities to lobby, influence and advocate.
Conclusions: you need it all!
The studies overall indicate that no single intervention is sufficient to ensuring the full participation of girls and women in the Knowledge Society. While enabling policy is very important, its implementation, monitoring and evaluation are even more important. Constitutional references to gender equality and overall gender policy are insufficient without inclusion of gender specifics in policies directly related to science, technology and innovation and the knowledge society. While education is a *sine qua non* of knowledge society, women need a full enabling environment to participate in it. They need health improvements particularly in pre-and post-natal care and in their rates of infectious disease as well as freedom from gender-based violence to be able to acquire the education and skills to participate in the knowledge society.

Social institutions and social attitudes about the abilities and the roles of girls and women need to adapt to changing realities that correspond to national interests of full human resource utilization. Customary and religious law as well as outdated gender stereotypes all constrain gender equality in the knowledge society.

Women need voice and agency in leadership positions throughout society. Equal pay for equal work is an essential element. Without sharing with men and without societal assistance to lessen women’s multiple roles, women alone cannot bear the full responsibilities of domestic work, child and family care and still hope to become knowledge workers. All the elements of gender equality need to be in place for girls and women to reap the full benefits of the knowledge society, and their benefits in turn will greatly increase the economic growth and social welfare of their countries.
Annex

Study researchers

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• **Uganda**: Irene Murungi, Women of Uganda Network (WOUGNET), assisted by Agnes Bukare
   Sarah Atim
   Alaina Boyle
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GEKS studies can be found online at:


National gender machineries

**Government agencies charged with Gender:**

- **Kenya**: Ministry of Labour, Social Security and Services
- **Ethiopia**: Women's Affairs Office, in the Office of the Prime Minister
- **Rwanda**: Ministry of Gender and Family Promotion
- **Uganda**: Ministry of Gender, Labour, and Social Development