**Doubling Digital Opportunity:**

**Enhancing Digital Inclusion of Women & Girls  
  
A Report of the**

**Broadband Commission Working Group on Gender & Broadband**

**Version 1 – 12 August 2013**

Foreword by Helen Clark, Administrator, UNDP [TO BE INSERTED]

Foreword by Dr. Hamadoun Touré, ITU Secretary-General

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| **ABOUT THE COMMISSION**  The Broadband Commission for Digital Development was launched by the International Telecommunication Union (ITU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) in response to UN Secretary-General Ban Ki-Moon’s call to step up efforts to meet the Millennium Development Goals (MDGs). Established in May 2010, the Commission unites top industry executives with government leaders, thought leaders and policy pioneers and international agencies and organizations concerned with development.  The Broadband Commission embraces a range of different perspectives in a multi-stakeholder approach to promoting the roll-out of broadband, as well as providing a fresh approach to UN and business engagement. To date, the Commission has published a number of high-level policy reports, best practices and case studies.  More information about the Commission is available at [www.broadbandcommission.org](http://www.broadbandcommission.org). |

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**Foreword by Ms. Helen Clark**

**Administrator, UNDP**

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**Foreword by Dr. Hamadoun Touré**

**Secretary-General, ITU**

As Co-Vice-Chair of the *Broadband Commission for Digital Development*, it is a great pleasure to publish this report highlighting the importance of achieving broadband gender equality globally.

This report is part of the ongoing work of the Broadband Commission, which was created in 2010 by ITU and UNESCO in response to UN Secretary-General Ban Ki-moon’s call to step up efforts to accelerate progress towards meeting the Millennium Development Goals (MDGs). As a high-powered platform of key policy pioneers, industry executives, thought leaders and academics, the *Broadband Commission* has campaigned actively to raise awareness of the social and economic benefits enabled by broadband networks, applications and services – including improved health and education services; a better standard of living; greater empowerment; and enhanced national competitiveness.

At ITU, we are working hard to achieve gender equality within our own organization, and the 2013 Session of ITU Council endorsed a landmark policy to further mainstream gender equality across the whole range of ITU’s strategic plans, activities and programmes. ITU also works to help increase the number of women pursuing careers in Information and Communication Technologies (ICTs), as well as leveraging ICTs themselves to increase the social and economic empowerment of women and girls.

We have a three-pronged approach to increasing the number of women in ICT careers: firstly, to create demand among girls and women for careers in ICT; secondly, to ensure a better supply of science, technology, engineering and maths education to girls and women; and thirdly, to achieve long-term sustainability by encouraging ICT businesses to attract, recruit, retain and promote women.

We are also undertaking various initiatives in terms of leveraging ICTs themselves for women’s empowerment, including our long-standing partnership with telecentre.org, which is on-track to train one million women in basic ICT skills. ITU also maintains a ‘Girls in ICT Portal’ at www.girlsinict.org, which features over 500 programmes such as scholarships, tech camps and online networks. Finally, ITU is also the organization behind the annual ‘Girls in ICT Day’, which saw over 1,500 events organized in 2013 in more than 120 countries around the world.

This report is a key output from the *Broadband Commission’s Working Group on Gender*, which was established in September 2012, and which established a new advocacy target to achieve gender equality in broadband access in March 2013. In reading this report, let me therefore encourage you to think about the ways in which gender equality can be advanced in terms of broadband access and use, and how the benefits of broadband can be brought to all citizens, everywhere.

Hamadoun I. Touré

ITU Secretary-General and Co-Vice-Chair of the Broadband Commission for Digital Development

1. **Executive Summary**

Women and girls comprise just under half the world’s population. And women are busy – women work two-thirds of **all** **working hours in the global labour force** and produce half the world’s food ….

**Global Labour Force Working Hours (ILO):**



And yet, women earn only **10% of the world’s income**:

**World Income:**



**A staggering 70% of the world’s poor are female (UNDP)** – when we talk about the world’s poor, we are talking mainly about women and their children.

**Global Poor (UNDP):**



Women are also falling behind men in their use of modern-day Information and Communication Technologies (ICTs) and the Internet. Globally speaking, women are 21% less likely to use a mobile phone (GSMA, 2011) and 16% less likely to use the Internet (ITU, 2013). These averages may be much higher in individual countries.

These inequities risk continuing into the next generation, and the generation after that. Over half the world’s 57 million out-of-school children are girls – 31 million girls whose futures (or more accurately, lack of future prospects) hang in the balance, depending on their ability to learn to read and write:

**Out-of-school children (UNESCO):**



* **Can access to the Internet and ICTs help redress any of these inequalities, and if so, how?**

This Report explores some of the issues around gender gaps in women and girls’ access to ICTs and the Internet. Issues in fact extend far beyond basic access, including the availability of interesting, relevant, helpful and affordable content. It explores the importance of ICTs in educating the next generation, shaping their aspirations and hopes, the implications of lack of access to ICTs by girls and women, and some of the different measures of inequality.

More than twenty years after the birth of the Internet, two-thirds of the planet’s population are still do not have regular access to the Internet, and a disproportionate proportion of these unconnected global citizens are women. ITU (2013) estimates that 63% of all women have yet to become Internet users, compared to 59% of women. In March 2013, the *ITU/UNESCO Broadband Commission for Digital Development* issueda fifth target, calling for gender equality in access to broadband by 2020[[1]](#endnote-1).

In today’s global Information Society, gaps in access to ICTs risk becoming gaps in advanced ICT skills necessary to access the better-paid jobs (and even access to online recruitment services). This suggests that lack of access to ICTs may disadvantage women in accessing better and more highly-paid jobs. Chapter 2 explores why gender matters in access to ICTs, and why limitations in female access to jobs conferring ICT skills matters in today’s knowledge economy.

Chapter 2 sets out some of what we know about ICT and Internet gender gaps. Different measures of gender inequality in access to ICTs exist (Featured Insight 2), and these different methods sometimes yield confusing results about any given situation (Box 1), which may cloud conclusions. Although *ex post* ICT gender gaps are generally reducing over time in the majority of countries for which data are available (Figure 2), *ex ante* ICT gender gaps may still be large in absolute terms, significant and persistent (Figure 1). The measurement problem is exacerbated by a lack of data availability for many countries, especially official Government-endorsed data.

Digital gender gaps reflect gender inequalities throughout societies and economies – a range of socio-economic and political factors affect gender divides, with attitudes and cultural beliefs likely to be self-reinforcing. Women or girls may not go online, because they believe they cannot master technology – but if women fail to go online, they may never master technology, and miss out on acquiring vital ICT skills helpful in everyday life, and increasingly essential in the modern digital economy.

Divides in access are also related with content issues. Content is essential for generating demand. Women may not go online, because they perceive there is a lack of relevant content. The availability of content online reflects – and shapes – social and cultural issues, including girls’ aspirations and expectations of gender role models, their future career choices, and more recently, cyber-bullying and sexual violence online.

Chapter 3 explores some of the more recent issues emerging to do with gender and broadband policy-making. Historically, Governments and policy-makers have tended to view national ICT policies as a chiefly technical issue. Now that ICTs are pervasive and embedded into our everyday lives, it is essential to consider the social impact of national ICT and broadband plans. Fewer than a third of countries’ National Broadband Plans (NBPs) refer to gender. Gender considerations are largely absent from a body of policy-making. The Broadband Commission recommends that gender be integrated into national ICT policies as a priority.

There is a large body of work underway on women’s access to, and content via, ICT. Chapter 4 of this Report highlights some of the valuable work being undertaken by members of the Broadband Commission’s Working Group on Broadband and Gender, focusing on gender and access to broadband and ICTs. It does not highlight this work on the basis of merit – there is much valuable work underway in different regions which is not included in this Report. Instead, Chapter 4 presents some of the initiatives and projects underway to improve female access to ICTs and create and generate valuable content online for women to improve demand, as interesting “food for thought” in the hope of stimulating debate and action.

Finally, Chapter 5 concludes with some tentative policy recommendations as a means of inspiring policy-makers to further consideration of this problem and ultimately, initiating action in the following areas:

5.1. Improve Gender-Disaggregated Measurement and Statistics in ICT

5.2. Integrate Gender in National Policies for ICTs and broadband

5.3. Initiate an Action Plan to getting towards 2020 equality goal in broadband access

5.4. Take Steps to Boost the Affordability of ICT Products and Services

5.5. Improve Local Content Online

[TO BE REVIEWED/INSERTED/FINALISED]

It is our hope that this Report will contribute to the growing global conversation on this vital issue.

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| **Box 1: A Few Words on Terminology…**  **Gender Equality and Female Empowerment**  The World Economic Forum (2012) distinguishes between Gender equality and women’s empowerment, on the basis that their Global Gender Gap Index “ranks countries according to their proximity to gender equality, rather than to women’s empowerment. Our aim is to focus on whether gaps between women and men have declined, rather than whether women are ‘winning’ the ‘battle of the sexes’. Hence, the Index rewards countries that reach the point where outcomes for women equal those for men, but it neither rewards nor penalizes cases in which women are outperforming men”[[2]](#endnote-2).  **Gender-Neutral**  Contrary to what is sometimes stated, policies which omit any consideration of gender may or may not in fact be gender-neutral. Gender-neutral means that there is no or little impact and/or influence on gender equality (in either direction). Contrary to some of what is found in the literature, omitting gender considerations does not mean that a policy is gender-neutral, and may in fact mean quite the opposite – failure to give consideration to gender issues may represent a missed opportunity to boost female participation.  **Gender equality or Gender Inequality?**  Much of the literature discusses gender equality, which is understood by many to be a goal, based on notions of fairness and justice. However, the subject which most of the literature is concerned with is in fact gender inequality, or the lack of gender equality. This report uses gender in/equality where appropriate.  **Gender-disaggregated indicators and Gender-sensitive ICT Indicators**  With some indicators, it is possible to provide a direct disaggregation by gender (e.g. male versus female Internet users). Other indicators are susceptible to analysis by gender, despite not actually possessing gender (e.g. Internet access by household, according to head of household). In general, both gender-disaggregated indicators and gender-sensitive Indicators can prove helpful in better understanding gender access to ICTs.  [TO EXPAND?]  **Gender or Sex?**  Hilbert (2011) distinguishes between the sex of biologically identifiable men and women and the self-identified gender identity of an individual (as understood in gender studies, for example). Most of the literature effectively (and erroneously) equates gender with sex, although most authors in fact refer to ICT access and usage patterns among biologically identifiable men and women based on their sex[[3]](#endnote-3). This report follows the majority of the literature in using the term gender.  Source: Broadband Commission Secretariat. |

1. **Why Gender Matters in Access to ICTs**

**2.1. Equal Opportunities in Access to ICTs?**

The Internet has transformed the lives of billions of people. It represents a gateway to new ideas and opportunities, a means of self-expression, a driving force for innovation and, increasingly, economic growth. All around the world, the Internet is helping people – men, women and children – to learn new skills and imagine new possibilities. To unlock the potential of the Internet for development and economic growth to the fullest extent, however, women need to be able to access the online world, and possess the knowledge and freedom to use ICTs and the Internet effectively.

Today, access to ICTs and participation in the online world enable access to development and the exercise of human rights, including freedom of expression, a sense of self-identity, cultural rights and the right to assembly. Equal participation encompasses the right to participate and fully engage in the way the online world is conceived, created, shaped and harnessed for development. Achieving gender equality in access to ICTs and the Internet would be fair, just and appropriate, especially since the Internet is now a channel for the delivery of many other services, including education, healthcare and financial savings[[4]](#endnote-4).

Equality in access to ICTs and self-expression does not just make sense on grounds of fairness and justice, however; equality in access to ICTs and the Internet makes sound economic sense. Research suggests that ICTs boost economic growth. The World Bank (2009) estimates that every 10% increase in access to broadband results in 1.38% growth in Gross Domestic Product (GDP) for developing countries[[5]](#endnote-5). Bringing women online can boost GDP – Intel (2013) estimates that bringing 600 million additional women and girls online could boost GDP by up to US$13-18 billion[[6]](#endnote-6). ICTs also have the potential to alleviate poverty and inequality, which fall most heavily on women – UNDP (1995) estimate that 70% of the world’s poor are female[[7]](#endnote-7) – when we talk about the world’s poor, we are in fact talking mainly about poor women and their children, fighting for survival on the margins of society.

Nations with greater gender equality and higher proportions of educated females may have more robust economies better able to withstand economic shocks. The World Bank (2012) found that eliminating discrimination against women in employment could boost worker productivity by up to 40%[[8]](#endnote-8). The under-utilization of female talent and perspectives dampens productivity and IT innovation, and slows economic development. If women’s paid employment rates rose to those of men, GDP could increase by up to 14% by 2020. Microsoft (2013) points out that everyone is watching the economic potential of the emerging BRIC economies, but the most exciting new emerging market in the world may well be women, and their capability to generate tremendous economic value and social growth[[9]](#endnote-9). According to Ernst & Young, over the next decade, the impact of women on the global economy – as producers, entrepreneurs, employees and consumers – will equal the impact of China’s or India’s one-billion-plus populations, if not exceed it[[10]](#endnote-10).

With the global rise of knowledge society and economy, realizing the right of women to full access and use of ICTs can help realize the human resources and full potential of a nation for economic development. The full utilization of human resources is especially important in global knowledge society, as underlined by the UN[[11]](#endnote-11) and ITU[[12]](#endnote-12). Indeed, the importance of gender and ICTs was specifically recognized by ITU Member States at the World Summit on the Information Society (WSIS), held in 2003 in Geneva, where Member States declared ICTs to be vital tools for women’s empowerment[[13]](#endnote-13).

Availability of ICT tools to the entire population, and a better understanding of importance of ICTs, can help communities learn about, and respond to development challenges better. There is growing recognition for the role of broadband and ICTs in empowering women. Empowered women are better informed, more financially independent and able to make better decisions for themselves, their families and their communities.

Women are often committed agents of family and community welfare. Studies show that women invest an average of 90% of their income back into their families and communities, which can help reduce poverty, and improve health and education[[14]](#endnote-14). Children can access improved nutrition, education, and their communities are healthier and safer, helping fuel economic growth. By providing women with ICT tools, policy-makers are in effect reaching a far broader base of the population, as women are more likely to take time to inform others and reflect such knowledge in family and community planning.

Broadband is key to achieving female digital inclusion, by providing women with the means to educate themselves and their children; improve their own health and the health of their families and communities; start their own businesses; keep themselves safe; and innovate to build and shape the future they want. Doubling digital opportunity by empowering women and girls to access the online world could help them learn to read, write and acquire vital skills.

Tragically, however, the evidence suggests that women and girls are being left behind. They do not have equitable access to the Internet and this hinders society’s ability to unlock the full promise of new digital opportunities. There is a significant and pervasive digital divide when it comes to access by men and women (see Figures 1 and 2). This gap varies from region to region, but is particularly high in sub-Saharan Africa, where there are almost twice as many men as women on the Internet (Intel, 2013[[15]](#endnote-15)). Since the Internet today provides enormous economic, social and professional value, the gender gap in access to the Internet has serious consequences for women around the world (Featured Insight 1).

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| **Featured Insight 1: Why Gender Matters**  In theory, the Internet is considered by some to be ‘genderless’ and is available and usable to anyone who chooses to access it. So why is a particular focus on gender necessary or appropriate? Unfortunately, the reality doesn’t always match the theory. The numbers speak for themselves, with shockingly more than twice as many men accessing the Internet as women in a number of countries. Although the technology itself does not innately discriminate, the human context of its usage and application is not always so even handed. Women face social barriers that make access more challenging, whether it be lower wages, lower levels of education, or cultural norms. And, when they do manage to get connected, they may find content and services that are not as relevant to their lives as they are mostly being produced by men. Even worse, women may face harassment or other safety issues online.  Bridging the gender gap is certainly a matter of fairness and opportunity for women who are being inadequately served. Yet, some may argue that access for women is often correlated with the development of a country, implying that the gender gap will fall away as an economy matures. That causality may in fact be inverted – research by the World Bank has estimated that a 10% increase in broadband adoption will result in a 1.38% increase in economic growth. This correlation is also intuitively obvious, as access to the Internet can enable women to increase their productivity, access new markets, improve their education, find better jobs, and contribute to the innovation economy. Thus, by expanding Internet access to all people, we can most effectively harness the full talents of the population and thereby achieve prosperity. Ensuring equal access to broadband by women is not only the right thing to do, it is the smart thing to do.  Source: Ann Mei Chang, who serves as the Senior Advisor for Women and Technology for the Secretary's Office of Global Women's Issues at the U.S. Department of State. |

Social, political, and economic inequalities affect women’s ability to access, use and master ICTs. Differential access to ICTs and their different impact on men and women mean that greater attention needs to be given to gender issues to realize gender equality and maximize the use of a country’s human potential.

The next section sets out some broad observations about what we know about ICT gender gaps and Internet gender gaps. These observations are not golden truths holding true for all societies and all individuals, but more as a starting point from which to launch the conversation.

**2.2. What We Know – Some Broad Observations**

1. ***There is no single ICT or Internet gender gap, there are several***. As early as 2000, Bimber (2000) cited two Internet gender gaps for the United States – “one in *access to the Internet*, and one in *use of the Internet* among those men and women [who are already equipped] with access”[[16]](#endnote-16). Other ‘gaps’ or differences in behavior become apparent for different uses (see Point 5).

Although most data focus on gaps in access to ICTs between men and women, such gaps are often reflected in a range of other differences. In Section 2.2, Box 3 describes the experience of the Dominican Republic with gender gaps in household access to ICTs (with female heads of household); female participation in the labour market; and gender choices in Science, Technology, Engineering and Mathematics (STEM) subjects at school and university, leading onto gender differences in career choices and ultimately, pay differentials.

1. Further, ***data and measurement methods have sometimes proved confusing*** and clouded the issue of gender equality in access to ICTs – there are a number of different ways to measure ICT and Internet gender gaps (Featured Insight 2), some of which may yield conflicting conclusions about any specific situation (see Box 2 for an illustration of how different measures can yield different conclusions about gender equality).

Methodological problems are exacerbated by data availability issues. Hafkins (2012) draws attention to the significant lack of data available for many countries, especially official Government-endorsed data[[17]](#endnote-17). It is notable that, of all the gender-disaggregated data included in the WEF’s Global Gender Gap Report[[18]](#endnote-18), gender-disaggregated access to ICTs are not included. Pyramid (2012) observes that different research institution use different “methodologies, instruments and data collection methods (including in-depth surveys to top-level estimates based on available data points)”[[19]](#endnote-19).

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| **Featured Insight 2: Measuring In/equality in Internet Access**  There are several different ways in which differences or gaps in Internet or ICT use between males and females can be measured:   1. **Absolute numbers**: The global gender gap is estimated at 200 million fewer women online. However, absolute numbers do not take into account total numbers of men /women – men outnumber women globally by 62.5 million, but women outnumber men in developed world.  * **Example** – In India, there are an estimated 60 million women and girls online, compared to 80 million male Internet users in mid-2013 (Google, 2013[[20]](#endnote-20)).  1. **Proportion of total men and proportion of total women who use the Internet:** this *ex ante* measure indexes the number of male Internet users relative to the total male population and the ratio of female Internet users relative to the total female population who could go online.  * **Example:** 80 million men divided by the total male population of India of 656m gives a male Internet penetration rate of 12.2%; 60 million women of a total female population of India of 614m gives a female penetration rate of 9.8%. * **Example:** World Telecommunication Development Report (2002), World Internet Project (2009), Microsoft (2013) provide and use such percentages for a number of countries.  1. **Difference between the absolute values (calculated in 1) expressed in percentage (relative to male Internet users):** This measure presents the difference (in absolute values) between male and female Internet users relative to a single population used as a reference (normally dividing by male Internet users, although it can compare men to women, depending on the goal).  * **For example**, the relative gap is 16% in the developing world and 2% in the developed world, calculated relative to the percentage is the total number of male Internet users in each region. However, again, this does not take into account total populations. * World Economic Forum’s Gender Gap Report focuses on relative gaps rather than levels.  1. **Difference between female Internet penetration and male Internet penetration relative to male Internet penetration** : This is calculated by taking the difference between female Internet penetration and male Internet penetration and the result divided by male Internet penetration. It is considered as the most accurate measure, as it takes into account the difference in total male and total female population and the different groups analyzed.  * **For example**, ITU’s gender gap in access to Internet (Figure 1). * Dina (2009) calculates that in Egypt, Internet penetration among women reached 10% in 2008 (indexed relative to women), which approaches Egypt’s national rate (12%) but is lower than male Internet penetration of men of 15% in 2008[[21]](#endnote-21). Women represented 39% of total Internet users, showing males are more likely to use Internet compared to women.  1. **Gini coefficients and Lorenz curves**: Gini coefficients and Lorenz curves assess the rate at which a divisible measure (such as individual Internet access) accrues over a divisible population to index the distribution of that measure across an entire population, relative to 1, representing the total area under the line of equality. A Gini coefficient of 1 implies equality.  * For example, the Gini coefficient of female/male Internet access for India is 0.867.  1. **Measures of skew in the Internet user population:** Another widespread measure of gender in/equality in Internet access is the relative percentages of male/female Internet users, in those Internet users who have actually made it online (this is implicitly compared with readers’ intuition that gender equality would be 50:50, based on equal numbers of men and women).  * For example, the ratio for Indian male/female Internet users is 6:4 or 60% to 40%.   Gender gaps should ideally be expressed in relative and *ex ante* terms, but different methods have been used to measure gender in/equality, with the choice of method depending on data availability and the research question.  Source: ITU. |

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| **Box 2: Seeking Equality?**  To illustrate different interpretations of gender equality, let us consider a village with eight men and four women. In terms of the village’s population, men outnumber women by a ratio of 2:1. For measuring equality in access to ICTs, consider the following scenarios:  **Scenario 1 – 6 men and 3 women are online:** men online clearly outnumber women online in absolute terms by a ratio of 2:1, giving a skew in the actual realized or *ex post* Internet population is 33%. However, 75% of both the total *ex ante* male and female populations who could become Internet users are online, implying gender equality.  **Scenario 2 – 4 men and 4 women are online:** absolute numerical equality has been achieved in the *ex* *post* realized population of Internet users. Of those people who have made it online, a equal gender ratio of Internet users of 50:50 has been achieved, with no skew in terms of the *ex post* population of Internet users. However, in the *ex ante* measure, women are in fact outperforming men, as 100% of women are online, compared to 50% of men, who are at a disadvantage in relative terms. It is unclear that gender equality has been achieved in relative terms.  **Scenario 3 – 8 men and 4 women are online:** 100% of all *ex ante* male and female populations who could become Internet users are online, implying gender equality in access to ICTs. However, the skew measure of inequality in Internet access of 2:1 reflects the underlying gender inequality in the population of 2:1.  In reality, for many countries, these proportions are measured in many millions (rather than individuals) and numbers of males and females are roughly equal (which means that such an extreme example is unlikely to apply). Nevertheless, this example highlights some of the dangers in using different statistical measures, which may yield different, and even conflicting, results according to the method used.  Source: Broadband Commission Secretariat. |

There is now a body of work on the definition of gender indicators underway on refining and calling for better measurement of gender ICT indicators. [The Partnership for Measuring ICT For Development](http://www.itu.int/en/ITU-D/Statistics/Pages/intlcoop/partnership/default.aspx) has established a Focus Group on Gender Indicators – Annex 1 lists the gender-related indicators of the Partnership. Women in Global Science and Society (WISAT) has a Framework on Gender Equality in the Knowledge Society (GEKS). In March 2013, the ITU/UNESCO Broadband Commission for Digital Development issued its fifth target calling for gender equality in access to broadband by 2020. Today, the main omission would appear to the collection and compilation of gender-disaggregated and gender-sensitive data and indicators.

1. ***Although ex post ICT gender gaps are generally reducing over time in the majority of countries for which data are available (Figure 2), ICT gender gaps may still be*** ***large in absolute terms***, ***significant*** ***and*** ***persistent (Figure 1)***. Small percentages may still translate into large absolute numbers. Of the two-thirds or nearly 5 billion people of the world’s population who are not yet regular Internet users, ITU (2013) estimates that 59% of all men have yet to become Internet users, compared to 63% of women. Based on Internet usage data, by end 2013, ITU estimates that some 1.3 billion Internet users will be women (or 37% of all women worldwide were using the Internet – Figure 1), compared to 1.5 billion men online (41% of all men), giving a global Internet gender gap of 200 million.

**Figure 1: The Gender Gap: men and women online, totals and penetration rates, 2013**

Note: Based on ITU estimates.

The gender gap is more pronounced in the developing world, where 16% fewer women than men use the Internet, compared with only 2% fewer women than men in the developed world (ITU, 2013[[22]](#endnote-22)). According to Intel, of a current total Internet user population in developing countries of 1.4 billion, 800 million are men and 600 million are women. This gives a weighted global gender gap for all 144 developing countries of 23% (i.e. 23% fewer women than men are online in the developing world), and a total global Internet gender gap similar to the ITU estimate of 200 million. Without further action, Intel forecasts that the Internet gender gap could grow to a total gender gap of 350 million in three years time[[23]](#endnote-23).

Incrementally slow, but steady reductions in Internet access gaps are observed in a number of countries, are consistent with trends in gender gaps observed over time in other fields (e.g. education, parliamentary participation, according to the World Economic Forum’s Gender Gap Report, 2012[[24]](#endnote-24)). Hafkin (2012) notes that women’s rate of Internet access does not always increase in tandem with increases in national rates of Internet penetration, and that high overall ICT penetration does not guarantee equitable access by gender – for example, the Arab States offer some examples of high-income, relatively high penetration countries with comparatively high gender inequality. The search is on to find policies and programmes which can accelerate the rate of women logging on – see Chapter 4.

**Figure 2: Trends in the Skew of ex Post Internet Users over Time, selected countries,   
1999-2012**



Source: Various; historical data from World Bank Toolkit (<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTGENDER/EXTICTTOOLKIT/0,,contentMDK:20272986~menuPK:562601~pagePK:64168445~piPK:64168309~theSitePK:542820,00.html>).

1. ***Although divides in ICT access reflect broader social and cultural divides, we do not always know exactly why these divides arise, or their consequences***. Digital gender gaps reflect gender inequalities throughout societies and economies – a range of socio-economic and political factors affect gender divides. It is widely and consistently established that women suffer discrimination around the world in fields such as employment, income, health and education (see e.g. Anand and Sen, 1995; the Forum’s Global Gender Gap Report), partly reflecting cultural biases and/or household decisions about relative reward/return to effort. Bimber (2000) suggests that the [U.S.] access gap is entirely the product of socioeconomic differences between men and women, while the use gap is the product of *both* socioeconomic differences and underlying, gender-specific effects”[[25]](#endnote-25).

Hilbert (2011) notes that it is not clear if existing background inequalities result in women making less usage of ICT or if being a woman per se has a negative effect on ICT usage (e.g. through ‘computer anxiety’[[26]](#endnote-26)). According to Hilbert’s analysis, fewer women access and use ICT as a direct result of their unfavorable conditions with respect to employment, education and income. After controlling for variation in these factors, women in fact emerge as more active users of digital tools than men.

The goal of equal opportunity to participate and benefit from the information society concerns affordability, accessibility and the appropriateness of meaningful access[[27]](#endnote-27). Affordability, gaps in wages and therefore gaps in purchasing power is a major determinant of the different abilities of men and women to access ICTs (Featured Insight 3). Endogenous, self-reinforcing or circular causation is likely – education and income gaps affect women’s access to ICTs, while women’s comparatively limited access to ICTs mean that they have fewer opportunities to access the better-paid skilled jobs. In particular, lower income hinders the purchase of equipment and payment of broadband fees[[28]](#endnote-28).

Intel (2013) notes the role of illiteracy in inhibiting access to the Internet, which poses a greater problem to online access by women than for men[[29]](#endnote-29). Across all developing countries, only 75% of women are literate, compared to 86% of men. This difference is much greater in some countries – for example, in India only 51% of women can read and write, compared to 75% of men. Without this fundamental skill, the Internet will remain out of reach. Conversely, access to the Internet or even to a mobile phone could improve literacy rates[[30]](#endnote-30).

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| **Featured Insight 3: Affordability and the Gender Gap**  The high price of Internet access in many developing countries has been one of the most significant barriers to increasing adoption. A study by Research ICT African found that affordability dwarfed other barriers (including local availability and digital literacy) for several countries in sub-Saharan Africa. This should come as no surprise – ITU notes that in sub-Saharan Africa, the cost for fixed-broadband is over 100% of average monthly income and mobile broadband costs over 50% of average monthly income.  Such high prices disproportionately impact women, as women have lower incomes and frequently have less control over spending. Thus, along with the highest costs relative to income, sub-Saharan Africa also suffers the highest gender gap when it comes to Internet access, estimated at 43% in the Women and the Web report by Intel. More affordable prices can play a significant role in reducing the gender gap. The Alliance for Affordable Internet (A4AI) is developing the Affordability Index, which will leverage the Web Foundation’s Web Index to provide deeper and specific indicators on affordability, including an understanding of the regulatory and institutional factors that underpin healthy competitive broadband markets. This Index includes several key gender indicators and will be expanded to include additional gender specific indicators in the analysis. A more competitive and efficient industry will ultimately result in more affordable prices for end-users.  Source: The Alliance for Affordable Internet (A4AI), an initiative in partnership with the World Wide Web Foundation – see [www.A4AI.org](http://www.A4AI.org) for details. |

1. ***Women and men use ICTs in different ways, with quantifiable gaps increasing for more sophisticated uses***. Men and women may experience telecommunications/ICTs differently. For example, in the U.S., In 2008, men from the U.S. were more likely than women to surf the web daily (54% of U.S. men, compared to 41% of U.S. women), while men spent 1.5 hours more than women at their monitors browsing or reading[[31]](#endnote-31). In selected Arab countries, consistent and measurable gender gaps are observed in the use of e-commerce (Figure 3, left) and the use of smartphones (Figure 3, right), with consistently higher proportions of men choosing to purchase and use these services than women (Arab Advisors, 2013).

**Figure 3: Gender Gaps in the use of different ICTs, selected Arab countries, 2012**

Source: Arab Advisors Group, 2013.

Hafkins (2012) [[32]](#endnote-32) suggests that further research is needed to learn how men and women experience ICTs differently, and that it would be interesting to have more data on:

* + - To what extent do men and women use certain ICTs?
    - Where are men and women using ICTs?
    - For how long and for what purposes do men and women use ICTs?
    - To what extent are men and women involved in the production of ICTs?
    - Are men and women benefitting equally from ICTs?

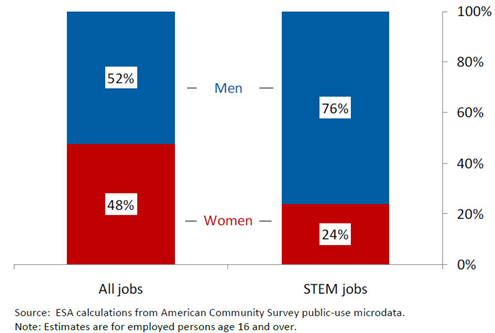
Pyramid (2012)[[33]](#endnote-33) notes that gender and ICT indicators should go beyond sex-disaggregated statistics and provide gender-sensitive insight into the context and use of ICT for economic and social development. It is important to note that gender equality in the use of ICTs should not necessarily mean that men and women should use ICTs in the same way – the differences between sexes, their behavior and outlook can also be celebrated, or even complimentary.

**2.3. From ICT access to STEM in the Global Information Society**

There is evidence to suggest that women hold fewer Science, Technology, Engineering & Mathematics (STEM) jobs[[34]](#endnote-34). This implies that not only do women currently hold fewer of the better-paid, more highly skilled jobs, but that also they are in a weaker position to develop better-paid skills for future competitiveness. At least part of this gap may be attributable to gender stereotyping absorbed in early childhood through imagery and viewing all around them (Featured Insight 6).

To close the gender gap, support for ICT skills training is needed at all levels of development. in the United States, where this topic has been researched extensively, at a young age, young girls use computers and the Internet in similar ways as boys. But as girls mature and consider future employment, female teenagers are five times less likely to consider a technology-related career. In the 1980s, young women earned 37% of computer science degrees; today, fewer than 20% of all computer science degrees are awarded to women[[35]](#endnote-35). This trend continues into actual formal employment – in the United States, women hold just 24% of total STEM jobs, which tend to be more highly skilled, better-paid jobs (Figure 4).

**Figure 4: Gender Shares of Total and STEM Jobs in the United States, 2009[[36]](#endnote-36)**



Employers in many different countries are struggling to fill hundreds of thousands of ICT jobs, and part of the problem is the lack of women trained in the field. In 2011, over 130,000 more networking professionals were needed in Latin America alone, a gap of 27% between the available supply and the necessary demand[[37]](#endnote-37). This excess demand is only expected to grow, reaching nearly 300,000 more networking employees needed in 2015 – a 35% gap. In Europe, the shortage of qualified ICT professionals is even larger. The “e-Skills” gap was 255,000 in 2011, rising to nearly 375,000 in 2015, based on GDP. With stronger economic growth, this gap could reach 864,000[[38]](#endnote-38) by 2015, exacerbated by a decline in computing science graduates. It is essential to increase the overall supply of digitally skilled professionals and to better match supply and demand of digital skills[[39]](#endnote-39). Getting more women into ICT is now a top priority for competitiveness[[40]](#endnote-40).

Making this shortage even more acute is the fact that women are disproportionately underrepresented in ICT employment. In OECD countries, women account for less than 20% of ICT specialists.[[41]](#endnote-41) In other regions, the disparity may be higher and it is apparent that the women-in-ICT gap is exacerbating the overall ‘e-skills’ gap. Closing the former will require equipping more women with the training and technical skills needed to be successful in ICT careers. Featured Insight 4 describes how more women in ICT are needed to drive industry and economic growth.

These gender inequalities continue in middle management and above, where there are comparatively few women in management – for example, only 4.2% of Fortune 500 companies have a female Chief Executive Officer (CEO)[[42]](#endnote-42). Featured Insight 5 describes a gender mainstreaming programme in place in one company to help improve the gender balance in management. Box 3 describes the experience of the Dominican Republic in combating beliefs about the role of women in science and technology.

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| **Featured Insight 4: More Women in ICT Are Needed to Drive Industry and Economic Growth**  It is not just for ICT sector jobs where more women need training in ICT skills. By 2015, 90% of formal employment across all sectors will require tech skills (IDC, 2012). To ensure women are competitive in the workforce, support for ICT skills building is needed. To help build the skills that women need in technology, Cisco helps train hundreds of thousands of women through the Cisco Networking Academy program[[43]](#endnote-43), which prepares students for IT careers and higher education in engineering, computer science and related fields through coursework and training across 10,000 academies, in 165 countries. To date, over 4 million students have participated in the program, which now welcomes a million students a year.  The Cisco Networking Academy began in 1997 with 64 schools, and today partners with institutions ranging from secondary schools and universities to community organizations such as vocation training centers and correctional facilities. ICT education is provided through in-classroom learning and innovative cloud-based curricula, to help students improve their career and economic opportunities.  Networking Academy also strives to empower women by supporting their professional development and encouraging gender equality within the ICT industry. In Serbia, one Networking Academy focuses on educating a cohort of women in networking technology, along with soft skill techniques and training to ensure they presented themselves in the best possible light to enter the workforce. The F\_email project, started by Mladen Koprivica, a Cisco Networking Academy instructor at the University of Belgrade, School of Electrical Engineering, helps empower women and starts in the classroom, combines technical skills with soft skills[[44]](#endnote-44). Each year, 150 applicants apply for 16 spots in a program designed just for women. While some have experience in the technology sector, half of each class do not and come from background as diverse as artists, language professors, architects and stay-at-home parents. To date, some 83 women have successfully graduated and gained the self-confidence they needed to work in industries they never thought possible.  In Jordan, “Achieving E-quality in ICT” (AEQ) project is a joint collaboration between Cisco, UN Women, and the Jordanian Government that incorporates the Cisco Networking Academy training program into curricula offered to students at different levels with the aim to bring more female university students into the ICT field[[45]](#endnote-45).  In Saudi Arabia, the Cisco Academy at Effat University is the leading non-profit institution of higher education for women and has expanded to 5 women’s universities in Saudi Arabia[[46]](#endnote-46).    And students of the Networking Academies are finding way to share their acquired skills with others such as the Student IT Ambassadors (SITA) volunteer program in India where students who have learned skills through Networking Academies to give back to local communities.  Recently, 15 SITAs worked with Literacy India, VIT University, Vellor, and Amity University, Noida, to train 35 rural women and 40 young females students on networking basics, on-line train travel, writing and sending email and Google searches. Similarly, the Spark for Women Project in Turkey, engages volunteers to train local women through a series of professional training to prepare them for the workforce.  During one intensive week, participants attend 75 hours of IT instruction through Networking Academy IT Essentials course[[47]](#endnote-47).  The jobs of the future will all include some sort of ICT components. Already the ‘hottest’ jobs of the 21st century are hybrid roles, combining ICT with business in every imaginable field: jobs such as bioengineering, digital media, data informatics, application development, telemedicine and remote learning systems. Let’s ensure women help to close the demand for ICT jobs, and are equipped with the necessary skills, and training, to go further and thrive in the careers of the future.  Source: Monique Morrow, CTO Cisco Services, Cisco Systems. |

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| **Featured Insight 5: Gender Equality is not just an issue for Women!**  At Alcatel-Lucent, the richness of diversity among our employees is a source of strength that allows everyone within the company to develop new ways of looking at issues and to contribute creative thinking. In today’s global environment, we believe more than ever that it is crucial to understand the cultures, customs and needs of employees, customers and regional markets. While women make up more than 50% of most talent pools and represent a large contingent of the Company’s end-users, they are not equally represented among our employees and management – Alcatel-Lucent has made it a business imperative to correct this misalignment.    Since women’s empowerment will not happen without the engagement and support of men, at the end of 2012, Alcatel-Lucent launched sessions on gender diversity as part of the Alcatel-Lucent overall global strategy.  These awareness-building sessions engage people managers, appealing to their sense of fairness and also  desire to be better leaders.  The workshop content includes why diversity is a business imperative for Alcatel-Lucent, and address the unconscious biases, assumptions and stereotypes about working women that are well-researched and substantiated in many external studies. Participants share and agree on actions to take to create a more gender balanced workplace, and ways they can better recruit, engage, motivate and develop professional women, thus leading to higher team and company performance.  To date, the workshops have reached over 500 people managers and leaders.  Alcatel-Lucent also launched StrongHer in 2011, an employee networking and support group created by Alcatel-Lucent women, which connects 830+ members (16% of whom are men) in over 40 countries. In 2012, StrongHer organized some 50 events (mostly in France, India and the U.S.) on topics such as work/life balance, leadership and openness. It boosted its internal presence within Alcatel-Lucent by establishing new groups in Germany, France and Ireland, and by adding to its highly collaborative online community, which features more than 500 blog posts and discussions to date. It also developed its external presence by establishing contacts with other diversity-aware companies and by launching its own Twitter account (@Strong\_Her).  Source: Alcatel Lucent. |

In many countries, coordination and information failures also arise between the demand and supply sides of the labour market. While the demand for employment exists both in the formal and informal sectors, information on recruitment is often limited to those with a strong social network or, increasingly these days, access to job postings via the Internet. There are a number of emerging business models that use ICTs and the Internet for improving coordination and information flows in the labour market – for example, consider the popular professional social networking service, LinkedIn, or web-based job matching services such as Monster.com. World Bank (2012) notes services such as Babajob (India), Assured Labor (U.S.), LabourNet (India), and Souktel (Palestine), which are up and running, others such as Pakistan Urban Link and Support (PULS) and Konbit (Haiti) are under development[[48]](#endnote-48).

Skilled, educated workers or simply those with Internet access may be able to use such Internet sites and services, so men may be disproportionately able to access these sites, and hence new or better-paid jobs, contributing to continuing wage differentials between men and women. Mobile-based job matching services may help make these sites more accessible for people without access to Internet services. The mobile phone can extend this access to those job providers or job seekers for whom PCs are an ineffective or unavailable channel of exchange.

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| **Box 3: ICT gender gaps in the Dominican Republic**  According to a study by the Research Center for Women's Action (CIPAF), 80% of teachers in the Dominican Republic believe that boys excel in mathematics while girls do better in languages. But the facts speak to a different reality – according to data, girls actually get better grades in maths. Overcoming stereotypes, promoting interest in mathematics among girls, and reducing the gender digital divide in the Dominican Republic is the aim of the project “Gender and ICTs: Equality and Equity in E-Dominican”, organized by the CIPAF and supported by UN Women's Fund for Gender Equality.  Women represent 61% of the university population in the Dominican Republic, but barely 11% of female students are studying for careers in science and technology. Further, there is an extensive gap in the opportunities that men and women have to access digital technology: only 38% of households headed by women have access to ICTs. While more women are entering universities, women are generally still absent from key areas of the economy – the ICT sector is one of the fastest-growing sectors in the country, but women represent only 33% of the labor market, with most of these in support tasks.  To address this reality, math clubs such as “E-girls and Super-maths” aim to promote science subjects amongst girls in public schools. The initiative includes mentoring and career guidance campaigns to speed up the entry of more women into the Technological Institute of the Americas (ITLA) and technology careers. The “Gender & ICTs” initiative is part of the Plan for Equal Opportunities for Women in the Information Society. This Plan aims to integrate a gender perspective into the broader Dominican National Strategy for the Information Society (E-Dominican), and contribute to reducing the gap between men and women in access to ICTs.  Source: UN Women, available at: <http://www.unwomen.org/en/news/stories/2012/7/closing-the-science-and-technology-gender-gap-in-the-dominican-republic#sthash.5ge8t1PA.dpuf>. |

**2.4. Women and Content**

Today, broadband networks are increasingly serving as the key platforms for delivery of movies, TV and other content, which people – men, women, teenagers and children – consume every day. Meaningful access to the Internet not only means having access to reliable, quick and affordable connection and related hardware, but also content that is relevant to specific contexts and languages. It also means being able to use and interact in online spaces without fear of surveillance, data retention, threats, intimidation or violence. This may not be the case for many women, and increasingly, women's human rights defenders in particular.

The use of ICT is a gendered experience. Disproportionately low participation of women and girls in education, employment and decision-making in technology, policy and legislation may be compounded by discrimination and violence against women, including sexual harassment and bullying[[49]](#endnote-49), affecting how the Internet and ICT are shaped and used by everyone (see photo).

In a number of countries with high Internet penetration such as the U.K. and U.S., attention has recently focused on the issue of cyber-bullying and ‘Internet trolls’, with a number of tragic suicides by young people bringing this issue to public attention. There is currently only limited research into the phenomenon of cyber-bullying, which clearly affects both vulnerable young men and women. There are some early indications that cyberbullying might vary by gender (Hinduja & Patchin, 2010b, p.1[[50]](#endnote-50)), although young men may be more reticent to admit to or report a past bullying experience[[51]](#endnote-51). Nevertheless, this represents a worrying new development, with the extension of sexual content and sexual violence in the real world into new forums online, with worrying implications for both men and women.

Jones, Johnson-Yale, Millermaier and Perez (2009) surveyed students from forty U.S. higher educational institutions to examine gender and race differences in Internet anxiety and use, as well as gender digital divide. 53% of male students reported that they “visited an adult website at least once a week”, compared with 9% of female students[[52]](#endnote-52). Moran (2011) notes that practices which were among niche practices of adult entertainment sites a decade or more ago are now becoming increasingly mainstream for young girls in Western societies, including full depilation of the pudenda and anal sex, on the basis that this is content which some youth of today may now be exposed to via the Internet.

The origin, evolution and role of content in shaping people’s aspirations and outlooks is the subject of a growing body of research. Featured Insight 6 explores the role of TV, entertainment media in shaping children’s outlook, identity and aspirations from an early age. It highlights recent research by the Geena Davis Institute on Gender in Media and our programming arm, See Jane, which found stark inequalities in the representation and gender of characters on-screen, suggesting that gender stereotyping remains deeply entrenched in today’s entertainment media.

These potential negative influences ignore the very positive influence online content and apps can have in educating Internet users against sexual violence. Box 4 describes how mobile apps and online tools can help combat sexual violence, and help the survivors of abuse come to terms with their ordeal in some of the poorest parts of Rio de Janeiro in Brazil.

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| **Featured Insight 6: Women are Everywhere, Except On-screen**  Nine years ago, I launched the Geena Davis Institute on Gender in Media and our programming arm, called See Jane. We have sponsored research into movies and children’s TV programmes in partnership with Annenberg School for Communication at University of Southern California. The results are stunning – despite being half the population, the message sent to children is that women and girls do not take up half of the space in the world and women and girls have far less value to society than men and boys.  Boys and girls do not share the sound-box equally – gender stereotyping remains deeply entrenched in today’s entertainment media. Currently, only one in four characters of all characters in family films are female. In crowd scenes, only 17% of the crowd are female, while only 11% of movies have a woman as the lead. Further, there is no significant progress – the increase in female characters over the last two decades is 0.7%, which may achieve parity in 700 years.  It is clear that broadband now has a profound impact on children’s perceptions and aspirations. TV and movies do wield enormous influence on young girls and children, as they are just developing their self-identity and sense of their role in the world, as well as considering their future career choices. The stark gender equality in media aimed at children is alarming. We found female characters are missing from critical occupational sectors, including technology. In family films, the man holds 83.3% of all STEM jobs, equivalent to a ratio of five male STEM characters for every one female STEM character. No female protagonist or co-leads were shown with STEM careers at all. Across categories of computer science and engineering, the ratio of males to females in this arena is 14.25 to 1. In TV, there are 78.9% males and just 21.1% females with STEM jobs.  What message are boys getting about the worth and value of girls, if the media does not show them taking up space equal to their numbers? What are boys learning to take into their future as business leaders, policy-makers and fathers? Seeing women take their full role will enhance benefits for the family and community of female empowerment, training and non-traditional career choices. When girls see female characters engaged in un-stereotyped activities, it can heighten their likelihood to pursue careers in the STEM fields. If girls see it, they can be it. And if boys see girls’ characters engaged in non-traditional occupations, boys will see that as the norm, rather than the exception.  ICT devices, from laptops to smartphones, have huge potential to create positive opportunities to overcome social and cultural barriers and discrimination and to empower girls and women by giving them access to essential services like education, health care advice, and personal security. These are services that those of us lucky enough to live in the US take for granted. But for most women and girls in the world, these are hard-won privileges, or simply not available at all. Our world can only improve, when women and girls are given the right to be equal contributors and participants in society.  The UN is keenly aware of the global gender power imbalance, and established gender equality as MDG-3, in its own right. In the technology sector itself, women and girls can make a powerful contribution as future entrepreneurs, content creators, role models, employers and employees. We have the opportunity to ensure that women are fully included in the expansion of the digital world, and that their voice is shaping the agenda of the UN’s post-MDG development strategies. The UN has declared October 11th as the first International Day of the Girl, and I’m honoured to be one of the champions of ITU’s recently launched ‘Tech Needs Girls’ campaign.  Source: Address by Ms. Geena Davis, Founder and Chairperson, Geena Davis Institute on Gender in Media Studies, and ITU Special Envoy for ICT, Women and Girls, who proposed the creation of the Broadband Commission Working Group on Gender at the Sixth Meeting of the Commission in New York on 23 September 2012. |

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| **Box 4: New online tool tackles violence against women and girls in Rio de Janeiro's favelas**  UN-Habitat studies show that women in urban areas are twice as likely as men to suffer some form of violence, especially in developing countries. In Brazil, as in many other countries, sexual violence is a significant problem. Although reported cases reflect only a fraction of actual occurrences, data from the Rio de Janeiro State Secretariat for Public Security show that, in 2012, there was a 23.8% increase in cases of estupro (crimes which include rape and other violence) reported to the police in Rio de Janeiro, compared to 2011.  Over recent years, the Brazilian Government has invested heavily in mobile telephone networks and in broadband. “LAN houses” (or public Internet access points) have become popular, including in the favelas. Leveraging this wider access to technology, on International Women’s Day, 8 March 2013, UN Women, UNICEF and UN-Habitat launched an online website which also works as a smartphone app that brings together information on support services for women and girls who are survivors of violence. With a large part of the population using mobile technology and computers in the favelas, an online tool was created so that anyone with a smartphone or computer and Internet access can use it to get information about assistance and services for survivors of violence. It provides abuse hotline numbers, information about rights, as well as the responsibilities and locations of Specialized Women’s Attention Centres, which provide psychological, social and even legal support. The tool also details steps to take after being raped, along with geographical positioning systems so users can locate the closest women’s centre, police station, medical centre and public prosecutor’s office.  Source: UN Women, available at: <http://www.unwomen.org/en/news/stories/2013/6/rio-de-janeiro-apps-to-end-violence-in-favelas#sthash.D1RUQYNe.dpuf>. |

Basic access to the Internet and ICTs is just the starting point for gender equality in access to ICTs – due consideration must be given to meaningful content for women online, as a trigger to promote demand for ICT services by women. Gender-appropriate content must also be considered in ICT policy. The next Chapter considers the role of gender considerations in ICT and broadband policy.

1. **Gender, Broadband and Policy**

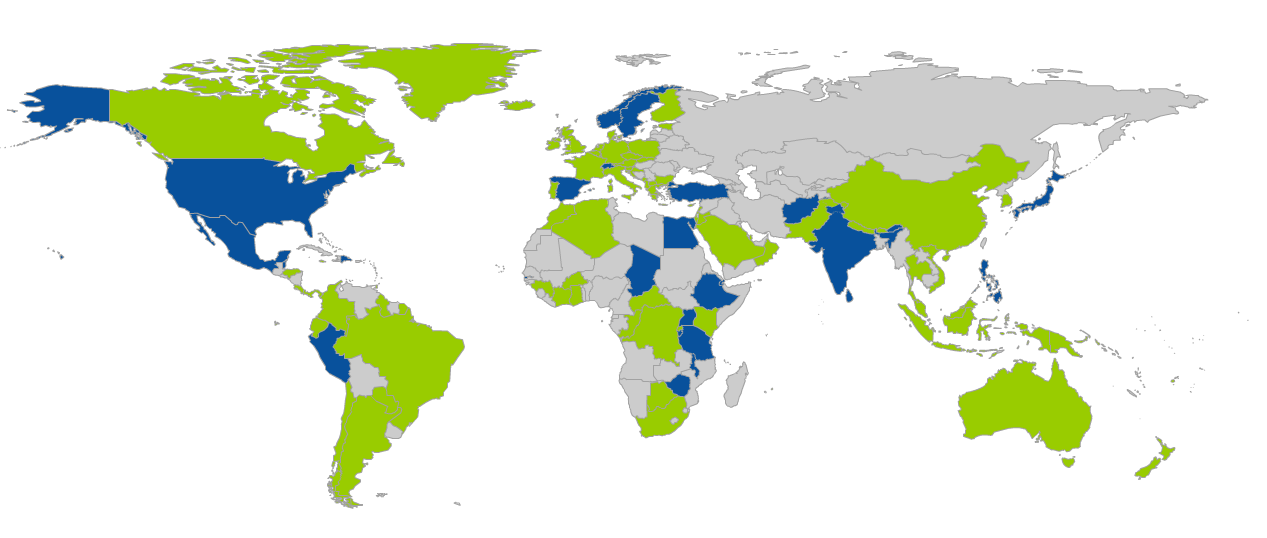
Policy can play a vital leadership role in shaping the take-up and demand for broadband services[[53]](#endnote-53). However, historically, Governments have tended to regard ICT policy as technical, and based on technological issues and choices, and have tended to ignore social and economic concerns as part of ICT policy. Today, ICTs are now ubiquitous and pervasive, permeating our everyday activities (and objects), and have become ‘socially-embedded’. There is hence a need to review technical policy areas, as well as our approach to policy-making, through a social lens, considering the societal implications of ICT policy on areas including gender[[54]](#endnote-54). ICT policy does not stand alone, but has important carryovers to/from education, health, governance, agriculture, finance, science and technology development, all with consequences for gender. A radical change in approach – and mindset – is needed.

Gender issues in the information society cover a wide spectrum including: integrating gender perspectives into national ICT policies; raising awareness among community-based organizations about the importance of national ICT plans for gender equality; promoting gender -responsive e-governance; effective use by women of ICTs and the need for relevant content; promoting women’s economic participation in the information economy; and promoting democratic media.

Integrating gender perspectives into national ICT policies is just one aspect, but it is readily measureable and the subject of recent research by the Broadband Commission. Alarmingly, gender concerns are largely absent from ICTs and telecoms policies – recent Broadband Commission research demonstrates that only 30 countries or 29% of 119 countries in 2012 included reference to gender as an issue in their National Broadband Plan (NBP) [[55]](#endnote-55). The Global Initiative on Inclusive Information and Communications Technology (G3ict) puts this percentage even lower for overall policy, reporting that just 14% of countries had policies in place for women[[56]](#endnote-56).

Figure 5 below shows which countries did and did not include gender as a consideration in their Plan. Bangladesh, Finland, India, Japan, Norway, Spain, Sweden, Switzerland, Turkey and the United States all included references to gender in their Plan. A large number of Asian, European and Latin American countries did not, as well as Australia and Canada. Featured Insight 7 notes that many countries have yet to extend their broadband policy to include gender.

**Figure 5: Inclusion of Gender in Countries’ National Broadband Plans, mid-2013**

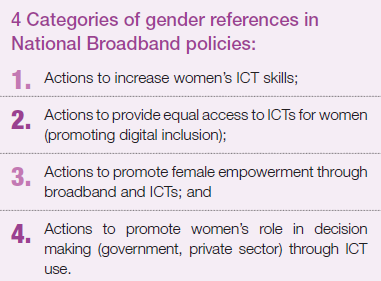


*Source*: Broadband Commission research, based on analysis of 109 Plans.

*Note*: Gray – no data, NBP not analyzed; Blue – NBP with a gender reference; Green – no reference to gender.

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| **Featured Insight 7: Women and National Broadband Policy-Making**  Some of the critical aspects we see at present are:  – Many states do not yet treat affordable, pervasive/ubiquitous access as a basic right for the entire population, especially including women.  – Many states are not yet proactive in implementing broadband development and policies that promote the coordination of efforts among the public sector, businesses and civil society.   * Most broadband policies omit gender (aside from identifying women as an untapped market for mobiles)   – There's little investment to enlarge the social impact of the Internet, especially in terms of awareness-raising and building information literacy, particularly amongst more excluded members of society.  – There's little consideration of the digital gender gap between households with male heads and households with female heads. Digital literacy programmes targeted to this segment should take into account the particular characteristics of households with female heads and their specific needs, mainly caused by lower income that hinders the purchase of equipment and payment of broadband fees.  Source: APC Women's Rights Programme, Association for Progressive Communications (APC). |

In those Plans which did include gender aspects, ICT training for women was the most common category, with a total of 17 Plans referring to this. These references demonstrate countries’ willingness to remove gender barriers to ICT education and training and to eradicate digital illiteracy amongst women and girls. Furthermore, half of the countries formulated measurable targets in this area. One example is the Dominican Republic, which aims to achieve a 50% digital literacy rate for women, within a four-year timeframe. Other country-level targets are more focused, and refer to the development of specific ICT training centers and programmes. For example, Chad´s National Broadband Plan aims at developing 18 such training centers within a four-year timeframe.

The second most referenced category addresses equal access to ICTs for women. Several countries refer to improved access to ICTs in general. One example is Zimbabwe, which wants to ensure equity in access to and the use of ICTs across all sectors of the economy. Others refer more specifically to enhanced access to PCs and/or Internet — for example, Egypt outlines actions to equip girls’ schools with PCs. Chad has defined concrete goals to measure progress in this area by outlining administrative and fiscal measures to achieve ICT gender equality, and to develop a favorable legal framework within two years.

Fourteen countries refer to ICTs for women’s empowerment. ICTs create new avenues for improving the situation of women as they provide them with access to knowledge and pedagogic content, and facilitate telecommuting to allow better family-work balance. In this regard, Gambia commits to increase the proportion of women involved in the ICT sector and industry, targeting their level of involvement in terms of ownership and management of ICT businesses.

Only four countries included elements related to the use of ICTs to promote women’s role in decision-making. Malawi aims at putting in place policy instruments to ensure the participation of women in the formulation of ICT policies, and to ensure these policies are geared towards meeting specific developmental needs of women. Mexico indicates that achieving digital inclusion will be a vehicle to increase women’s role in politics.

The good news is that countries’ approach to broadband policy is slowly becoming more comprehensive over time. From a narrow focus on IT and ICTs at the start of this century, National Plans and Policies are shifting to broader considerations of the Digital Agenda, with more countries including social considerations in their national policies[[57]](#endnote-57).

Pyramid (2012) [[58]](#endnote-58) notes that some of the key objectives for implementing gender-disaggregated and ICT indicators are to help:

* Develop informed and gender-aware policies and programs;
* Contribute to the growing body of research and insights to market segments to insights on impact to universal access to broadband; and
* Develop a comprehensive vision of growth opportunities (e.g., targeted market segments) and development priorities (e.g., market gaps).

There is a need to prioritize digital inclusion for women and girls at the highest levels of policy-making to ensure that Governments and policy-makers consider the societal consequences of broadband policy. Broadband policy should no longer be seen as a technical area – instead, the social impact of broadband policy needs to be carefully thought through. The next chapter examines some of the programmes which have been developed to date to enhance female access to broadband and ICTs.

1. **Programmes & Best Practices**

**4.1. Introduction**

The previous chapters explored the preconditions for women to become full participants in a national knowledge society, in terms of the access, content and resources women need to participate in the online Information Society, and how rapidly women are making progress towards joining the online world.

There is a considerable amount of work and programmes underway aiming to promoting women’s participation in the Information Society, carried out by various institutions, firms and organizations to help countries mobilize their full human resource capacity and become a knowledge-based society. This chapter describes some of the work and programmes underway to:

1. Expand female access to ICTs and broadband; and
2. Facilitate female participation in the online information society.
3. Increase relevant and interesting content for women online.

This chapter highlights some of the valuable work being undertaken by members of the Broadband Commission’s Working Group on Broadband and Gender, focusing on gender and access to broadband and ICTs. It does not highlight this work on the basis of merit – there is much valuable work underway in different regions which is not included in this Report. Chapter 4 presents some of the initiatives and projects underway to improve female access to ICTs and create and generate valuable content online for women to improve demand, as interesting “food for thought” in the hope of stimulating debate and action.

**4.2. The Work of UNDP [To be Inserted]**

**4.3. The Work of ITU**

ITU organizes a series of global and regional events to share experiences, best practice and raise awareness on key issues to be addressed by Member States and other stakeholders with regards to promoting digital inclusion. Over 30,000 girls and young women around the world have been encouraged to choose a career in ICTs through the 1,320 International Girls in ICT Day events organized in nearly 90 countries, and the annual International Girls in ICT Day is gaining momentum. ITU has also organized various events focusing on female digital inclusion at TELECOM, and side events organized during the 2012 World Radiocommunication Conference and the Commission on the Status of Women’s 2012 meeting in New York and the development of promotional  banners, flyers and videos.

Some 567,411 women have been trained through the ITU-Telecentre.org Foundation Women’s Digital Literacy Campaign, by the end of December 2012, and this total exceeded 600,000 during 2013. This represents a milestone for the campaign, which aims to provide one million women with digital literacy training.

In addition, a WSIS Girls in ICT Day Showcasing Event shared best practices among the 15 selected Girls in ICT Day event organizers. Information is disseminated to women and girls on the ITU Girls in ICT Portal, including over 500 programmes (e.g., scholarships, internships, tech camps and online networks). The Portal was enhanced to provide information on how to organize Girls in ICT Day events and to share photos, films and other information about the activities organized by stakeholders in 2012.   The BDT thematic report, entitled, “[A Bright Future in ICTs: Opportunities for a New Generation of Women](http://www.itu.int/ITU-D/sis/Gender/Documents/ITUBrightFutureforWomeninICT-English.pdf)”, was published in February and published in all ITU official languages via the Portal.

The Women with the Wave: High Level Forum on Digital Inclusion of Women and Girls was held on 10-11 October 2012 in Seoul, Republic of Korea, attracting some 150 senior multi-stakeholder delegates from 35 countries, issuing a Statement with a nine-point plan of action calling for greater participation of women across all levels and occupational groups in media and ICT sectors. [ITU Plenipotentiary Resolution 70  (Guadalajara, 2010)](http://www.itu.int/ITU-D/sis/Gender/Documents/Resolution_70_2010.pdf) reflects the recognition of the gender by ITU Member States: Gender mainstreaming in ITU and promotion of gender equality  and the empowerment of women through ICTs[[59]](#endnote-59).

**4.4. The Work of UN Women [to be inserted]**

UN Women carries out a significant body of work aiming to improve the lot of women worldwide.

Featured Insight 8 describes the work of UN Women. Box 3 describes a partnership between UN Women and Microsoft for the Women's Empowerment Award for the most promising projects or applications or innovations which could potentially best address economic inequality, access to technology and other resources, gender-based violence, leadership and political participation, or other critical women’s issues.

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| **Featured Insight 8: The Work of UN Women**  UN Women supports ICT for gender equality and women’s empowerment through the following:  **Global Advocacy and Partnerships**  - Advocacy on gender and ICT for Development at the World Summit on the Information Society (WSIS) and the Commission on the Status of Women;  - Formation of the Women, ICT and Development (WICTAD) global coalition and participation in the Broadband Commission Gender Working Group;  - Women’s Empowerment Principles Technology Sector Road Map and partnerships with the private sector, e.g. Microsoft and UN Women Imagine Cup Gender Award.  **Policy** including promotion of integrating gender in national and sectoral e-strategies and policies and gender sensitization of policy makers and regulators, as well as integrating ICT into gender strategies and plans and capacity building of gender advocates.  **Trust Funds and Programming** including supporting innovative ICT applications through the *Fund for Gender Equality* and the *Ending Violence Against Women Trust Fund*, as well as through major global programmes such as *Safe Cities and Rural Livelihoods* and programming at the national level across all areas of work and focused on knowledge sharing, digital literacy and skill development.  Source: UN Women. |

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| **Box 3: Women's Empowerment Award (UN Women/Microsoft)**  Around the world, women are facing challenges of economic inequality, access to technology and skills and other services and resources, gender-based violence, limited leadership and political participation, and other issues. We all must rise to these challenges and increase opportunities for girls and women. Together, Microsoft and UN Women are looking for innovative technology solutions to help empower women to improve their lives, their rights, and their futures.  All Imagine Cup 2013 World Finalist teams are eligible to submit their World Finals projects for consideration for this award. Microsoft and UN Women evaluate submitted projects for relevancy and impact. The first place prize (US$12,000) and the second place prize (US$8,000) will be awarded to the projects that best address economic inequality, access to technology and other resources, gender-based violence, leadership and political participation, or other critical women’s issues. Applicants will be judged on the potential impact their projects can have on the lives of women, including feasibility to address the target issue and the quality of the application.[[60]](#endnote-60)  At Microsoft’s global student software competition Imagine Cup for cost-effective applications that can help improve women’s health, Team Code 8 from Uganda won first prize for a “blood-free” Windows Phone Application called Matibabu, which diagnoses malaria quickly, without performing the more traditional and time-consuming diagnostic test for malaria based on a blood sample and lab results. Team Omni-Hearing Solution from Taiwan won second prize for a smart-technology driven application alternative to the more expensive traditional hearing aid. The award winnings will enable students to further test, fine tune, and take to market their solutions, as well as provide them the jumpstart they need to attract venture capitalists to take their products to scale. Both applications have benefits to improve the lives of women; especially in areas where healthcare access is limited and cost-effective solutions are urgently required to overcome economic barriers women may face[[61]](#endnote-61).  Source: UN Women/Microsoft partnership. |

**4.5. The Work of UNESCO**

As a UN specialized agency, UNESCO’s mandate includes education, the sciences, culture and communication/information. Since January 2008, UNESCO has designated gender equality as one of its two global priorities – its second global priority being Africa. In line with its policy commitments, UNESCO strives to promote gender equality through (i) gender mainstreaming and (ii) gender-specific programming.

Creating and supporting a critical mass of girls and women who participate in science and engineering is crucial to promote the contribution of half of humanity to scientific knowledge generation, dissemination and sharing, to facilitate change in decision-making in the fields of science, technology and innovation and related national policies and strategies, as well as to ensure that the concerns and abilities of girls and boys, women and men are taken into account in policies and strategies in these areas. UNESCO has been working to mainstream gender in all its programme areas, including through using a gender lens to review workplans, reporting and evaluation.

UNESCO has striven to increase women’s participation in basic sciences. For example, with partners including the International Centre for Theoretical Physics (ICTP), UNESCO trained 130 women in mathematics and physics in Africa in a variety of events in the last year. In ICTP’s overall scientific activities, 22% of the participants are women, along with 17% of ICTP's Associates.

UNESCO is also supporting the National Council for Science and Technology of Kenya to mainstream gender in the National Science, Technology and Innovation (STI) Policy in institutions of higher learning and research institutions. Thirty women academics and policy makers are trained in all aspects of STI policy in 2013. In order to mainstream gender into disaster risk reduction-related projects and activities, UNESCO organized a seminar in February 2013 for UNESCO colleagues in regions and headquarters.

In June 2011, 33 women and two men scientists, engineers, private sector and policy-makers from ten African countries were trained in strategies for the promotion of women in science in Africa. The three-day capacity building workshop offered professional and mid-career women in science and engineering in Africa the forum to discuss challenges facing women’s participation in science, technology and innovation (STI) and to identify new and emerging STI opportunities for women in Africa. A Communiqué was developed and disseminated to the African Union and various regional and national governments to enhance gender mainstreaming in university teaching and research as well as in STI policy and innovation systems and governance. One of the recommendations was to organise a capacity building workshop for women scientists in STI policy review and implementation.

Since 1998, the L'Oréal-UNESCO Awards for Women in Science has sought to improve the position of women in science by recognizing outstanding women researchers who have contributed to scientific progress. These awards represent a partnership between the French company L'Oréal and UNESCO, with a grant of US$100,000 for each laureate. Each year, an international jury alternates between life and material sciences and selects a winner from each of the following regions: Africa and the Middle East; Asia-Pacific; Europe; Latin America and the Caribbean; and North America.

The same partnership awards the UNESCO-L'Oréal International Fellowships, providing up to US$40,000 in funding over two years to fifteen young women scientists engaged in exemplary and promising research projects. For example, in 2011 L’Oreal-UNESCO Regional Fellowships award was presented to ten outstanding female scientists from Africa to pursue Ph.D. programmes in agriculture, herbal medicine, malaria research, energy efficient bio-fuels (green energy), virology-HIV, entomology, nanotechnology, civil engineering, computer science and water science. All of the women scientists had a common goal to harness indigenous knowledge for solving basic needs using science, technology and innovation for sustainable development of their countries in particular and Africa in general.

In Africa, a partnership programme with the Islamic development Bank and the Forum for African Women Educationalists (FAWE) led to development of the programme, Education and Science: Promoting Access to Math and Science Education in Secondary Education in Sahel countries (Pilot in Niger and Burkina). The programme is comprehensive and concerns curriculum development, teacher training, development of gender sensitive teaching and learning material and the use of ICTs. UNESCO has mobilized US$150,000 for the pilot in Niger and second phase in 2013 to be replicated in selected Sahel countries.

Literacy programmes have also adopted innovative approaches with the application of ICTs in programmes specifically targeting women and girls. For example, UNESCO organized in Bangkok a Regional Consultation Workshop on Developing Literacy through Mobile Phones: Empowering Women and Girls in 2012. The meeting aimed to promote discussion and knowledge-sharing related to successful literacy initiatives in Asia, and raising awareness of the potential for mobile learning to help achieve Education for All goals. Nine case studies on using mobile technologies to support literacy for women and girls were produced and two regional expert meetings on mobile learning for the empowerment of women and young girls were organized in Africa and Asia.

UNESCO supports its Member States to mainstream gender in sector-wide education policy and planning, in policy reviews and thematic studies. In Africa, national capacities were strengthened to develop quality sector-wide Educational Management Information System (EMIS) and to undertake sector analyses to inform sector plans and policies that are gender sensitive through disaggregated data. Support was also provided to the Economic Community of West African States (ECOWAS) and the Economic Community of Central African States (ECCAS) countries to analyse their curricula with a gender lens. In Malaysia, gender was mainstreamed in the review of the policy on ICTs in education.

In collaboration with ITU, UNCTAD and UNDP, UNESCO co-organized the World Summit on the Information Society (WSIS)+10 Review meeting in February 2013 at headquarters. In collaboration with UN Women and other partners, UNESCO organised two special sessions on “Reviewing Gender Equality and Women’s Empowerment in the Knowledge Society”, where gender advocates could exchange views about how effectively gender equality and women’s rights commitments have been achieved within the framework of WSIS. These sessions actively contributed to the establishment of new partnerships with various stakeholders working on information society from gender equality perspectives and led to recommendations for post-2015 agenda for gender equality, women’s empowerment and ICTs.

Empowering women through access to information and knowledge by addressing gender specific needs especially through the use and development of ICTs is today being improved through the implementation of Open Education Resources (OER), Open Access (OA) and Free and Open Source Software (FOSS) programmes and policies. In the area of Open Access, efforts are made to encourage girls’ and women’s access to scientific information, increase availability of gender equality related issues and OA through platforms and links and gender-balanced participation to meetings and conferences, and the Open Access Forum 2011 in November 2011 at Paris. UNESCO will enhance the active role of women and girls in ICTs in Education, Science and Culture by strengthening networks of cooperation and communities of practice in Member States, harnessing the potential of FOSS for greater access to ICTs.

Over its next Medium-Term Strategy period (2014-2021), UNESCO aims to determine, measure and assess sex-disaggregated data, and to undertake an inventory of policy instruments that affect gender equality in science, engineering and innovation. In particular, UNESCO will conduct an inventory/gap analysis of STEM policy instruments and gender-related indicators, and aim at increasing the number of UNESCO Member States which undertake surveys on STEM policy instruments to promote gender equality and women’s and girls’ empowerment.

**4.6. The Work of the World Bank**

The World Bank Group has focused on gender since 1977, when it appointed its first Women in Development Advisor. The Bank adopted a mainstreaming strategy in 2001, while at the same time adopting an operational policy and publishing the pioneering Policy Research Report "Engendering Development," all of which helped set the stage for the 2007 launch of the Gender Action Plan (GAP). This Gender Action Plan (2007-2011) boosted the Bank's support to women and girls in the traditionally difficult-to-mainstream economic sectors, using pilots to increase visibility and yield results in the short term. The plan’s clear message, "Gender Equality as Smart Economics" built on the World Bank’s comparative advantage and helped gain broad-based support[[62]](#endnote-62).

The focus areas of the World Bank’s work on gender include domains of socio- economic development such as: agriculture and rural development, extractive industries, female entrepreneurship, gender-based violence, girls' education, reproductive health, women's voice, agency and participation.

The World Bank Group promotes gender equality in developing countries through lending, grants, knowledge, analysis and policy dialogue. Various gender projects and programs were overseen and developed by the World Bank Group. For this purpose over US$29 billion, or 83 percent of the World Bank's lending and grants, were allocated to gender-informed operations in education, health, access to land, financial and agricultural services, jobs, and infrastructure in the fiscal year 2012 alone[[63]](#endnote-63).

Every year the World Bank's publishes its annual *World Development Report* (WDR) which provides with an extraordinary window on development economics. The WDR report focuses on a different specific aspect of development each year. WDR edition in 2012 focused on *Gender Equality and Development*[[64]](#endnote-64). It finds that women's lives around the world have improved dramatically, but gaps remain in many areas. A separate section of WDR 2012 was dedicated to the globalization and ICTs impact on gender equality: *Globalization’s impact on gender equality: What’s happened and what’s needed.*

*The Little Data Book on Gender 2013* [[65]](#endnote-65) presents gender-disaggregated data for more than 200 economies in an easy country-by-country reference on demography, education, health, labor force, political participation and the UN Millennium Development Goals.  The World Bank has also developed and released a *Gender Data Finder* - mobile free application to download and use from iTunes. This app contains the most current gender-relevant data for over 200 indicators and more than 200 countries and regional/income groups. The app gives users mobile access to the *World Bank’s Gender Data Portal*, a gender statistics database that covers topics such as education, reproductive health, adolescent fertility, economic opportunities, access to productive resources (such as land and credit), representation of women in public positions, and gender-based violence. Users can access gender-relevant data by country, topic, or indicator, and view the resulting data in tables, charts or maps that can be easily shared through email, Facebook and Twitter[[66]](#endnote-66). Box 4 describes a hackathon sponsored by the World Bank in Nepal aimed at ending violence against women via improved access to ICTs.

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| **Box 4: World Bank Hackathon in Nepal**  In June 2013, the World Bank sponsored a hackathon, which emerged from a similar events organized by Bank, where more than 80 young techies and civil society representatives joined forces to find a ways and address the problem on how through use of the technology we could end violence against women in Nepal[[67]](#endnote-67). Patriarchy is a deeply rooted problem in this country. One-third of married women have experienced some form of emotional, physical, or sexual violence from their spouse in their marital relationship. Nepal is a landlocked country in South Asia that is still recovering from a decade-long civil war. It ranks 157th out of 187 countries in terms of human development, according to *UNDP's Human Development Index Report 2013*. However, there is cause for optimism – Nepal has not only achieved the MDG on reducing maternal mortality but it is also on track to achieve gender equality in education. Educating girls will not only help end poverty but also help a historically patriarchal nation become a more equal, open-minded, and fair society.  The key to Nepal's transformation is its youth, who are using technology to shape their own futures and that of their country. Just eight years ago, only 0.4% of Nepal's population used the Internet. Today, one in every four Nepalese has access to the Web, and some Nepalese are using it to address societal challenges.  Source: World Bank. |

The International Development Association (IDA) is the part of the World Bank, which provides funds to help the world’s poorest countries. Established in 1960, IDA aims to reduce poverty by providing loans (called “credits”) and grants for programs that boost economic growth, reduce inequalities, and improve people’s living conditions. Gender equality is a key priority for the World Bank’s IDA[[68]](#endnote-68) and works to reverse millennia of gender discrimination by getting girls to school, helping women access land titles and financing to start small businesses, and ultimately helping to improve the economic prospects of families and communities. From 2002 to 2012 as results of IDA’s programs, more than 188 million pregnant women in IDA countries received prenatal care from a health provider. Gender parity in primary schools in IDA countries rose from 91 to 96 girls for every 100 boys enrolled, between 2000 - 2010[[69]](#endnote-69).

*infoDev*[[70]](#endnote-70) also host various work on gender equality. Female entrepreneurs reinvest in their communities, drive growth, and inspire girls to chase their own dreams though often faced with financial and cultural barriers. *infoDev* initiatives are helping women entrepreneurs across the globe change the face of development from the ground up.

**4.7. The Work of the GSMA**

GSMA raised the profile of the issue female access to ICTs significantly with the publication of its ground-breaking report on the subject, *Women and Mobile: A Global Opportunity (*GSMA/Cherie Blair Foundation for Women, 2011[[71]](#endnote-71)). Based on field observations, this report documented gaps in access to mobile phones in different regions. Mobile phones are especially important, as the most widespread technological platform for access, with mobile cellular phone subscriptions projected to reach 6.835 billion worldwide at the end of 2013[[72]](#endnote-72). Featured Insight 9 describes the work of the GSMA’s mWomen Programme.

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| **Featured Insight 9: GSMA’s mWomen Programme**  The *GSMA mWomen Programme* aims to facilitate access to mobile products and services that could change the lives of millions of women in low- and middle-income markets. The GSMA launched the mWomen Programme in October 2010, with the support of former U.S. Secretary of State Hillary Rodham Clinton, following the release of our report, *Women and Mobile: A Global Opportunity.* This study, produced by the GSMA/Cherie Blair Foundation for Women, was the first to identify the magnitude and causes of the mobile phone gender gap in low- to middle-income countries, estimating that women in these markets are 21% less likely than men to own a mobile phone, representing a gender gap of 300 million women and a US$13 billion missed market opportunity for the mobile industry. Key barriers to women’s mobile access include cost, culture, technical illiteracy and perceptions of value. It also demonstrated some ways in which women benefit from mobile ownership. For example, 93% of women surveyed reported feeling safer, 85% reported feeling more independent and 41% reported greater access to income-generating opportunities, thanks to a mobile phone.  These findings encouraged GSMA to undertake a series of projects, culminating in the GSMA mWomen Global Development Alliance, financed and implemented in partnership with USAID, AusAID & Visa Inc. The *GSMA mWomen Programme’s* objective is to reduce by half the mobile gender gap by encouraging mobile operators to serve women, increasing the availability of life-enhancing, value-added services for women and promoting solutions to address barriers to adoption. The programme is focused on identifying business models that can serve women on a sustained basis at scale, by providing support and insights to spur action by mobile operators, VAS providers and other mobile industry members, NGOs and international development partners.  **Increasing access**  We are seeing exciting examples of how operators are fostering women’s increased access to mobile by gaining deeper understanding of the needs of women as consumers in their markets and designing products and services that meet these needs and overcome barriers to adoption.  In 2011, for example, Iraqi operator Asiacell saw that women made up only 20% of its subscriber base. After conducting consumer insights research to understand the needs of women, the company launched the Almas line of products, with the following features designed to match the needs of Iraqi women for mobile services:   * ‘step charging,’ which offers a 50% discount after the third minute; * freedom for women to choose their own off-peak hours; * discounted rates for off-network calls; and * a free ‘bye-bye’ service that blocks potential harassers from calling or texting.   Since its launch in April 2011, female customers now account for 40% of Asiacell’s customer base and about 1.8 million women in Iraq have been connected to friends and family, becoming more socially and financially independent. In February 2013, Almas was awarded the Global Mobile Award for ‘Best Mobile Product or Service for Women in Emerging Markets’ at the *GSMA Mobile World Congress*.  Another example is Indonesia’s Indosat. To differentiate its offering in a competitive marketplace, Indosat created a mobile product specifically targeting the wants and needs of women home-makers. The *Hebat Keluarga* service aims to help housewives better manage their households and stay in touch with their families, and includes an affordable friends-and-family tariff, a ‘family-finder’ application to track the geographical location of family members, and an extended SIM card validity period. Since its launch in July 2011, Indosat’s customer base has increased by nearly two million female customers.  **Increasing value to women**  In addition to fostering greater access to mobile phones, the *GSMA mWomen Programme* aims to increase the value women in low- and middle-income countries derive using mobile phones. In *Women and Mobile: A Global Opportunity* study, 30% of women who did not own a mobile phone reported not seeing its value, either because their social networks were local or they had access to landlines.  The GSMA believes that women in low- and middle-income settings will have greater interest in investing in mobile phones to gain access to value-added services that are relevant to their key needs. GSMA mWomen’s 2012 *Striving and Surviving: Exploring the Lives of Base of the Pyramid Women* study asked women in four markets what they most value in life. Housing, children’s education, family health and stable incomes were valued most. GSMA mWomen is working with mobile operators, NGOs and other ecosystem partners to design mobile value-added services that meet women’s core needs and encourage their adoption and use to improve lives.  The GSMA mWomen Programme’s 2013 study *Unlocking the Potential: Women and Mobile Financial Services in Emerging Markets,* created in partnership with Visa Inc., illustrates this virtuous circle. Women are active household financial managers, yet often they lack access to formal financial tools, and informal methods for payment and savings don’t fulfil their needs for privacy, security, convenience and reliability. These gaps create barriers to women’s participation in the economy as farmers or small business owners. This study suggests that if mobile financial services are designed and marketed with women’s needs in mind, women and their families will be more interested in investing in mobile phones in order to access these services, which will lead in turn to increased access to critical financial services, participation in the economy and household incomes.  Etisalat’s *Mobile Baby* illustrates how an ecosystem partnership can create services of value to both men and women. The 2012 Global Mobile Award winner, the partnership includes Etisalat, Qualcomm, D-Tree International and Great Connection Inc. *Mobile Baby* is a suite of affordable services designed to reduce deaths associated with pregnancy in emerging markets. The tool enables remote monitoring of pregnancies by ultrasound, communications between midwives and medical facilities in cases of emergencies and education about warning signs, enabling health workers to act upon emergencies more quickly. *Mobile Baby* is now available across Etisalat’s markets and has been tailored to include other local health priorities, such as polio eradication and child nutrition.  **Role of government**  While the *GSMA mWomen Programme* focuses primarily on identifying business models that can serve women with life-enhancing services on a sustained basis at scale, the GSMA also promotes government action to create the necessary enabling environment to make this possible. Governments interested in ensuring that mobile services reach women just as they do men also have a role to play. For example, government agencies can encourage the development of value-added mobile services that benefit women in particular and are designed with their needs in mind, such as m-Government services for economic development and mobile services to deliver cashless social payments. Governments have a role to play in collecting national-level data on women and mobile ownership and usage, as well as ensuring that gender issues are woven throughout ICT agendas and that education and other social programmes consider use of technology in their design and implementation. Finally, policy makers can consider how to promote greater mobile usage by reducing the total cost of mobile ownership to its citizens, perhaps through tax treatment of telecoms goods and services.    **Partnership to increase women’s access and use at a global scale**  GSMA is proud to be working in concert with the mobile industry, NGOs, Governments and the Broadband Commission, as the mobile ecosystem focuses its attention on the power of mobile to serve women and girls. The GSMA mWomen Programme demonstrates how the collective efforts of these partners can improve women’s lives, as well as those of their families and communities, on a global scale. We look forward to continued partnership as we together realise mobile’s full potential as a driver of global economic and social development. Visit [www.mWomen.org](http://www.mWomen.org) to learn more about the programme and review the rich repository of news, findings, tools and other resources.  Source: Dr, Anne Bouverot, Director General, GSMA. |

**4.8. The Work of the Private Sector [to be inserted]**

A number of private sector companies now run programmes and initiatives to extend access to ICTs and ICT skills. Cisco’s Networking Academies is described in Featured Insight 4. Intel runs a programme of training centres, with a requirement to train an equal number of girls as boys, which have trained a total of 7 million students and 3.5 million girls to date.

The Alcatel-Lucent Foundation has partnered with World Education, Inc. to implement ConnectEd, a programme launched in April 2011 to address factors limiting the work and life options of disadvantaged youth, with an emphasis on girls and women[[73]](#endnote-73). The program prepares 13,500 young people from marginalized communities in Australia, Brazil, China, India, and Indonesia for the world of work. In many countries, young people are reaching early adulthood without the right skills. ConnectEd hopes to equip young people with skills to gain secure employment and livelihood opportunities through scholarships, skills courses, school re-entry classes, job skills training, work placements and 'youth civic voice' actions. Alcatel-Lucent employees participate actively, using their expertise to help with activity implementation and serving as role-models, mentors and advisers to youth participants in all countries.

TO COMPLETE THIS SECTION.

1. **Policy Recommendations [to be reviewed / confirmed / finalized]**

The Broadband Commission Working Group on Broadband and Gender presents its policy recommendations for promoting the consideration of gender in national policy-making, as well as practical policy recommendations on specific policies to expand female access to broadband and boost female participation in the online Information Society. It is hoped that by following these [five] policy recommendations, Governments working in concert with civil society and industry can double digital opportunity, and achieve digital inclusion for all.

Member States should ensure coordination between NSOs and national telecommunication policy goals, as well as between NSOs, ICT policy organs and gender machineries on data collection. They can also ensure gender analysis and gender-awareness in all ICT and telecommunications statistics and indicators work.

* 1. **Improve Gender-Disaggregated Measurement and Statistics in ICT**

Gender statistics should be mainstreamed in national ICT/telecoms statistics and a gender perspective integrated into ICT telecoms/data collection. Hafkins (2012) suggests that gender-specific indicators in stand-alone national ICT surveys could include:

* + - Gender-awareness in ICT telecommunications policies
    - Gender issues in technical ICT policy areas
    - Policy encouragement for girls to study science and technology
    - Women’s share of leading positions in ICT-industry, government positions in science and ICT
    - Women’s participation in telecommunications and ICT decision-making.

Gender ICT statistics efforts should be coordinated with national planning efforts. Equally, gender advocates must become knowledgeable about ICT/telecommunications, science and technology.

ICT/telecommunication gender statistics must be seen in context of overall gender equality. Within the broad topic of gender and ICTs, there are a number of areas where reliable and consistent, further gender-disaggregated data and indicators are needed on access and usage, content, employment, education, consideration of gender issues in telecommunications policy, representation in ICT decision -making and impact of ICTs on women. Official, government-endorsed gender-disaggregated statistics are not always available.

* 1. **Integrate Gender in National Policies for ICTs and broadband**

There is an urgent need for governments to build a strong gender perspective into their ICT policies, to devise strategies with clear goals, and to put in place measurement systems and practices to ensure these are achieved. Policy needs to cover universal access, regulatory frameworks, privacy and security), licensing, spectrum allocation, infrastructure, ICT industry development and labor issues, and draw upon available expertise, frameworks and tools that provide relevant guidelines. Governments should consult regularly with gender experts, allow broad-based participation of women’s groups, and account for diversity to enable genuine multi-stakeholder involvement. Different Ministries should be involved in the policy-making and implementation process. National governments may also require the support of multilateral development agencies and donors in the policy-making process.

Gender considerations and a gender perspective should be included in National Broadband Plans, with multistakeholder consultation processes with women’s representatives to ensure that women's needs are included in National Broadband Plans. This may also involve:

* + Annual audit and reporting of gender inclusion in published plans
  + Publish UNBB guidelines for effective inclusion of gender
  + Engage technical experts to educate, advocate, and recommend changes

Women’s programs to bridge gender gap could also be included in Universal Service Funds (USFs):

* + Annual audit and reporting of gender inclusion in published plans
  + Publish UNBB guidelines for effective inclusion of gender
  + Engage technical experts to educate, advocate, and recommend changes
  1. **Initiate an Action Plan to getting towards 2020 equality goal in broadband access**

In order to help achieve gender equality in broadband access, Governments may wish to consider implementing some of the following measures:

* Digital Literacy training for women and girls:
  + Familiarity is a key obstacle to greater use of the Internet by women, who may not understand what it is for and what it can be used for (Intel, 2013).
  + Governments may wish to consider supporting digital literacy campaigns targeted towards women and specifically training that can be applied to their lives, which should go beyond how to use a computer/technologies, and focus on how digital literacy can be used as a tool for empowerment, to access new job opportunities, and information.
  + Governments can work with international organizations such as ITU and UNESCO to develop metrics for digital literacy, alongside large-scale literacy and ICT data collection.
* Address affordability barriers:
  + Engage with device manufacturers to promote more affordable devices;
  + Innovate on low-cost devices and connectivity plans;
  + Incentivize development of smartphone, tablet, and computer user interfaces geared towards low literacy and limited resource environments.
* Environment/Improve outreach to women/girls:
  + Policy-makers should work with ICT ecosystem stakeholders (such as operators and tech companies) on public service campaign on benefits of internet to women; how/where to access and direct them towards digital literacy campaigns, telecentres, government-sponsored programs.
  + NGOs should be consulted and involved on how to address cultural norms around girls/women’s empowerment; and norms around technology use.
* Awareness-raising/Improve access to relevant content – policy-makers can:
  + Incentivize development of services and apps geared towards women's needs and priorities;
  + Foster partnerships through some mechanism—to encourage collaboration between tech providers, manufacturers, and content providers to provide women tailored content;
  + Drive traffic to different content portals… highlight a few great examples- like World Pulse (peer network for women to engage, citizen journalism, share information, ‘empowerment’ training); Smart Woman.
* Campaign to address online harassment and other Internet safety issues.
  1. **Take Steps to Boost the Affordability of ICT Products and Services**

Communities, and especially women, need access to affordable, pervasive broadband services, and the equipment necessary to use it.Generally the cost of a useful broadband connection may be more than the income of someone at the bottom of the pyramid, and broadband services are not uniformly available except in major cities and towns. Equipment often costs more than double what it could if taxes and duties were exempted on ICT devices. The industry and policy-makers need to consider how Internet access can be made more affordable – for example, through a review of taxation requirements. This can also be achieved through support for public access facilities for those who cannot afford their own broadband connection or equipment – telecentres, libraries, multimedia community centres or similar social initiatives providing high-quality connectivity for education, e-health, e-governance at affordable or subsidised prices. These social initiatives should also offer equal opportunities to access, ICT training and participation in content development, promoting the digital inclusion of both young and adult women and girls.

* 1. **Improve Local Content Online**

There is an urgent need to address the lack of relevant content and services for people in marginalised areas or areas far from a country's commercial or industrial centres. Many people may only speak a local language. The creation of local content and applications should therefore be stimulated, such as development of web sites, software and mobile tools in indigenous languages or information systems for rural women and men.

LIST OF ACRONYMS AND ABBREVIATIONS

FOSS Free and open source software

G3ict Global Initiative on Inclusive Information and Communications Technology

GDP Gross Domestic Product

GSMA GSM Association

ICT Information and Communication Technology

ICTP International Centre for Theoretical Physics

ICTs Information and Communication Technologies

IDA International Development Association

ITU International Telecommunication Union

NBP National Broadband Plan

PPP Public-Private Partnership

STEM Science, Technology, Engineering & Mathematics

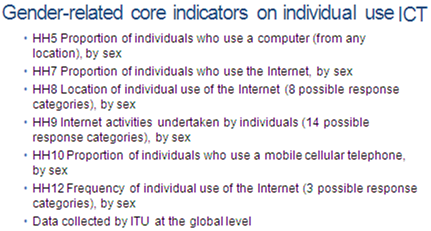
STI Science, Technology and Innovation

UNDP United Nations Development Programme

UNESCO United Nations Educational, Scientific & Cultural Organization

WSIS World Summit on the Information Society

**Annex 1: Gender-related ICT Indicators from the Partnership**









* + Individuals who used a mobile cellular telephone;
  + Individuals who used a computer;
  + Individual Internet users by sex: Data on European countries is very complete. Data on female Internet users are still very sparse. For the 39 countries for which there is data: of sub-Saharan countries, data is only available for Senegal. In all of Africa, we have only, additionally, Morocco, Egypt and Mauritius (none of them representative countries). For Asia, We have neither China (except for Hong Kong and Macao) nor India. This data is totally unavailable for low-income Asian countries (e.g. Pakistan, Bhutan, Nepal, Bangladesh, Myanmar, etc.).
  + Location of individual use of the Internet;
  + Internet activities undertaken by individuals;
  + Frequency of individual use of the Internet.

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