

DOUBLING DIGITAL OPPORTUNITIES

ENHANCING THE INCLUSION OF WOMEN & GIRLS
IN THE INFORMATION SOCIETY

A REPORT BY THE BROADBAND COMMISSION
WORKING GROUP ON BROADBAND AND GENDER



United Nations
Educational, Scientific and
Cultural Organization

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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.

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FOREWORD



Doubling Digital Opportunities: Enhancing the Inclusion of Women & Girls in the Information Society frames the challenges and opportunities we face in achieving gender equality in an era of rapid technological change. It closely examines critical gender issues with respect to new information and communication technologies (ICTs) and broadband. Most important, it shows ways in which we can further advance the sustainable development agenda by promoting the use of new technologies in support of gender equality and women's empowerment.

This report is inspired by the experiences of many organizations working in this field. UNDP sees from its own experience how broadband and ICTs can have significant and lasting impact, by helping women to access information and the services they need to live meaningful lives and have a voice in processes where decisions affecting their lives are made.

ICT policy development is often seen merely as a technical issue with little relationship to other development areas. At the same time, many national gender-centered policies do not take into consideration the use of ICTs or broadband as key enablers to expand the reach of those policies to accelerate progress. It is time to tackle these challenges together. This report sets out practical recommendations for doing so, and calls for integrated approaches across the areas of broadband, ICTs and gender, policy for development.

This report captures a range of views and perspectives on the role which new technologies can play in fostering gender equality by engaging the private sector, civil society and women's organizations, academia, governments, international organizations, and entrepreneurs, and demonstrates that the challenges associated with the introduction and use of new technologies require collective action and innovative partnerships.

I thank and commend all those who have contributed to the debate on and preparation of this report.



Ms. Helen Clark

Administrator, UNDP,
Chair, Broadband
Commission Working Group
on Broadband & Gender

FOREWORD



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 the telecentre.org Foundation. The partnership's main target is to train one million women in basic ICT skills. Over 800,000 women in 85 countries have already received digital literacy training, and we are therefore well on track to reach our goal by the end of 2013. ITU also maintains a 'Girls in ICT Portal' at www.girlsinict.org, which features over 500 programmes such as scholarships, including over 100 scholarship opportunities, some 70 contests and awards, more than 100 training and internship opportunities, and over 100 online networks offering career support and mentoring, as well as tech camps. Finally, ITU is also the organization behind the annual 'Girls in ICT Day', which in 2013 saw over 1,500 events organized in more than 120 countries around the world and over 40,000 girls and young women taking part in the celebrations.

This report is a key output from the *Broadband Commission's Working Group on Broadband and Gender*, which was established in September 2012, and which issued 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.



Dr Hamadoun I. Touré

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

EXECUTIVE SUMMARY



This Report studies the role that ICTs and the Internet can play in advancing gender equality agendas, including equal access to new technologies by women and girls. It examines the central question of how access to the Internet and ICTs can help redress some of the inequalities women and girls face in their everyday lives, and whether inequalities in access to the Internet, and the types of content available online, are in fact reinforcing social attitudes towards women. Issues in fact extend far beyond basic access, including the availability of relevant content and the participation of women in public policy-making processes. The Report explores measures of inequality in access to ICTs, the importance of ICTs in educating and shaping the aspirations and hopes of the next generation of women and girls, and the implications of lack of access to ICTs by girls and women.

More than twenty years after the birth of the Internet, two-thirds of the planet's population still do not have regular access to the Internet, and a greater proportion of these unconnected global citizens are women. ITU (2013) estimates that some 200 million fewer women are online, compared with men. Women are coming online later and, as a gender, more slowly, than men. In March 2013, the *ITU/UNESCO Broadband Commission for Digital Development* endorsed a fifth broadband advocacy target, calling for gender equality in access to broadband by 2020¹.

In today's global Information Society, gaps in access to ICTs are also associated with gaps in the advanced ICT skills necessary to access better-paid jobs (and even access to online recruitment services). Chapter 2 begins by exploring why gender matters in access to ICTs, and why limitations in female access to jobs or education conferring ICT skills can have a large socio-economic impact in today's information society.

Chapter 3 takes stock of what we know about ICT and Internet gender gaps based on latest available evidence. Different measures of gender inequality in access to ICTs exist (Featured Insight 3), which may give different results (Box 2), which may cloud conclusions. Although gender gaps in actual realized *ex post* Internet access are generally reducing over time in the majority of countries for which data are available (Figure 2), *ex ante* ICT gender gaps in the proportion of men or women yet to go online may still be large in absolute terms, significant and persistent. Different conclusions based on different measurement methodologies are exacerbated by a lack of nationally representative sex-disaggregated ICT data in many countries. Nevertheless, there is a substantial ICT and Internet gender gap in developing countries, which is even larger in some regions and countries.

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 be choosing not to go online, or be prevented from going online, because there is a belief that women and girls cannot master technology – but if women fail to go online, they may never master technology, and miss out on acquiring vital ICT skills which are helpful in everyday life, and increasingly essential in the modern digital economy. Women may also miss out on new opportunities of earning more income, starting a new business, accessing or selling products to new markets, participation in decision-making processes that affect their lives, finding or changing jobs, or forging new contacts and accessing information – in short, women may miss out on the new digital opportunities offered by access to the Internet and broadband.

¹ www.itu.int/net/pressoffice/press_releases/2013/08.aspx

Divides in access to the Internet are also linked with issues concerning content. Content is essential for generating demand. Women may be choosing not to go online, or be prevented from going online, because there is a perceived lack of relevant content or a belief that women and girls cannot disseminate content they generate and are willing to share. The availability of content online reflects – and shapes – social and cultural issues, including girls’ aspirations and future career choices, male and female expectations of gender role models, leadership traits, cyber-bullying and online sexual violence.

Chapter 4 explores some of the more recent, emerging issues concerning gender and ICT 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. Today, fewer than one third of countries’ National Broadband Plans (NBPs) refer to gender, and gender considerations are largely absent from the body of policy-making. Moreover, most ICT and broadband strategies remain oblivious of existing national gender machineries and policies – which in turn have little to say about ICTs. 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 5** and Annex 2 of this Report highlight 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 to improve female access to ICTs and create and generate valuable content on-line for women to improve demand, as interesting ‘food for thought’ in the hope of stimulating debate and action. There is a great deal of other important work underway in different regions which it was not possible to include – this chapter seeks merely to illustrate some of the variety of work underway.

Finally, **Chapter 6** presents some conclusions and policy recommendations as a means of inspiring policy-makers to consider this issue further and, ultimately, initiate action in:

- 6.1. Integrate gender and national ICT and broadband policies
- 6.2. Improve sex-disaggregated ICT statistics and measurement
- 6.3. Take steps to boost the affordability and usability of ICT products and services
- 6.4. Improve relevant and local content online
- 6.5. Initiate an Action Plan to achieve gender equality in access to broadband by 2020

This Report summarizes the current situation with regards to differential access to the Internet, and sketches some of the potential implications of gender gaps in access to the Internet, based on the inputs and viewpoints of the Working Group on Broadband and Gender of the ITU/UNESCO Broadband Commission on Digital Development, chaired by UNDP. It is our hope that this Report makes a valuable contribution to the growing global conversation on this issue.



Box 1: A Few Words on Terminology...

Gender

“Gender refers to the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys... These attributes, opportunities and relationships are socially constructed and learned through socialization. They are context/time-specific and changeable. Gender determines what is expected, allowed and valued in a woman or man, in any given context. In most societies, there are differences and inequalities between women and men in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision-making opportunities. Other important criteria for socio-cultural analysis include class, race, poverty level, ethnic group and age”.²

Gender Equality

“Refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women’s and men’s rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality implies that the interests, needs and priorities of both women and men are taken into consideration—recognizing the diversity of different groups of women and men. Gender equality is not a ‘women’s issue’ but should concern and fully engage men as well as women. Equality between women and men is seen both as a human rights issue and as a precondition for, and indicator of, sustainable people-centered development”.³

Women’s Empowerment

“Women’s empowerment has five components: women’s sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally. The concept of empowerment is related to gender equality, but distinct from it. The core of empowerment lies in the ability of a woman to control her own destiny – empowered women must not only have equal capabilities (such as education and health) and equal access to resources and opportunities (such as land and employment), they must also have the agency to use those rights, capabilities, resources and opportunities to make decisions (through leadership opportunities and participation in political institutions)”.⁴

Sex-disaggregated indicators and gender-sensitive ICT Indicators

With some indicators, it is possible to provide a direct disaggregation by sex (e.g. male versus female Internet users). Other indicators are susceptible to analysis by gender, while not possessing gender (e.g. Internet access by household by head of household). Both sex-disaggregated indicators and gender-sensitive indicators are helpful in better understanding gender access to ICTs.

Source: Various.

² OSAGI, 2001, ‘Gender Mainstreaming: Strategy for Promoting Gender Equality Document’.

³ OSAGI, 2001, ‘Gender Mainstreaming: Strategy for Promoting Gender Equality Document’.

⁴ Millennium Project Task Force on Education and Gender Equality, 2005, Taking action: achieving gender equality and empowering women.



**WHY GENDER
MATTERS 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 and empowerment, a driving force for innovation and, increasingly, sustainable growth. In many countries around the world, the Internet is helping people – men, women and youth – to acquire new skills, imagine new possibilities, and be active participants in deciding their own future. Nevertheless, to unlock the full potential of the Internet for sustainable development, women need to have the knowledge and freedom to effectively use new ICTs.

Today, access to new ICTs and the Internet enables the exercise of human rights and freedom of expression, a sense of self-identity, cultural rights and the right to assembly. Online access also encompasses the right to participate and fully engage in key policy and decision-making processes that can and will shape any sustainable development agenda. In this light, achieving gender equality in access to ICTs and the Internet would be fair, just and appropriate, especially since the Internet is now a channel that is now empowering stakeholders and acting as a catalyst in the delivery of critical services such as education, healthcare, government services, employment opportunities and financial services⁵.

Equality in access to ICTs is not only a key human rights issue; it also makes sound commercial and economic sense. Recent 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 countries⁶. Bringing women online can boost GDP – Intel (2013) estimates that bringing 600 million additional women and girls online could boost global GDP by up to US\$13-18 billion⁷.

Nations with greater gender equality and higher proportions of educated females may have more resilient economies capable of withstanding shocks. The World Bank (2012) found that eliminating

discrimination against women in employment could boost worker productivity by up to 40%. The under-utilization of female talent and perspectives dampens productivity and ICT innovation, and slows economic development. If women's paid employment rates rose to equal 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 growth⁸. 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 it⁹. More women online will result in greater economic growth due to: increased efficiency/productivity in their daily work and businesses; improved access to markets both to buy and sell goods; improved education; wider networks; new innovations; and faster access to relevant information. Bringing girls and women online could double the digital opportunities opening up in the new online global economy.

With the global rise of the knowledge society, realizing the right of women to fully access and use ICTs can help realize the human resources and full potential of a nation for sustainable development. The full utilization of human resources is especially important in the global knowledge society, as underlined by the UN¹⁰ and ITU¹¹. 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 empowerment¹².

The availability of ICTs to the entire population, and a better understanding of importance of ICTs, can help communities learn about, and better respond to development challenges. There is growing recognition of the role of broadband and ICTs in empowering

⁵ See "The State of Broadband 2012 Report: Achieving Digital Inclusion for All" and "The State of Broadband 2013 Report: Universalizing Broadband", at www.broadbandcommission.org. In each report, Chapter 3 provides different examples of the use of broadband networks, services and applications for achieving the MDGs.

⁶ World Bank Information and Communication for Development Report 2009. See also Qiang & Rossotto, 2009.

⁷ Intel, "Women and the Web" report, January 2013, available at: www.intel.com/shewill/

⁸ http://blogs.technet.com/b/microsoft_on_the_issues/archive/2013/03/06/women-talent-and-potential-are-boundless-opportunity-should-be-too.aspx

⁹ Page 3, "Girls in STEM and ICT Careers: The Path toward Gender Equality", available at: http://download.microsoft.com/download/E/6/5/E6523A39-82DF-4330-A216-AA520EB4FEB7/Girls%20In%20STEM%20and%20ICT%20Careers_WP_FINAL.pdf.pdf

¹⁰ UN ECOSOC Resolution E/2001/L.29 (July 2001) on "Social and human rights questions: advancement of women", which calls for mainstreaming a gender perspective into all policies and programmes of the UN system".

¹¹ ITU Marrakesh Resolution 70 (Rev. Marrakesh, 2002) calls for incorporation of a gender perspective in ITU's work programmes, management approaches and human resource development activities.

¹² "We are committed to ensuring that the Information Society enables women's empowerment and their full participation on the basis of equality in all spheres of society and in all decision-making processes. We should mainstream a gender equality perspective and use ICTs as a tool to that end", WSIS (2003a) Declaration of Principles, at: www.itu.int/dms_pub/itu-s/md/03/wsis/doc/S03-WSIS-DOC-0004!!PDF-E.pdf.

women. Empowered women are better informed, more financially independent, able to make better decisions for themselves, their families and their communities, and can meaningfully participate in decision-making processes that can directly affect their future.

Women are often committed agents of family and community welfare. Studies show that women invest a large proportion of their income back in their families and communities, which can help reduce poverty, and improve health and education. Children can access improved nutrition, education, and their communities are healthier and safer, helping fuel economic growth. Expanding women's access to ICT can enhance the reach of policy-makers to a far broader population base, as women are more likely to take time to inform others and reflect such knowledge in family and community planning. By the same token, increased access will also give women distinct voice in development planning and allow them to be active participants in having gender-aware policies and programmes at the local and national levels.

Broadband is a catalyst for fostering women's digital inclusion, which, in turn, can lead to gender equality in all social, economic and political dimensions, by:

providing women with access to resources to educate themselves and their children; improving their own health and the health of their families and communities; starting their own businesses; keeping themselves safe; empowering them to have voice and effectively participate in governance processes; and innovating to build and shape the future they want. Empowering women and girls to access the online world could help them learn to read, write and acquire other vital skills.

Unfortunately, current evidence suggests that women and girls are being left behind. Women and girls do not have equitable access to the Internet, which in itself hinders society's ability to unlock the full promise of new digital opportunities. As the Internet becomes more critical to modern life, there is a risk of leaving women further behind, and failing to effectively leverage female productivity. There is a significant and pervasive gender divide in Internet use by men and women (see Chapter 3). This gap varies from region to region, but is particularly high in sub-Saharan Africa, where in 2011, there were twice as many men as women on the Internet (Intel, 2013¹³). As the Internet provides enormous economic, social, political and professional value, this gender gap has grave consequences for women everywhere (Featured Insight 1).

¹³ Intel, "Women and the Web" report, January 2013, available at: www.intel.com/shewill/



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 they 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 these 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 United States Department of State.



Evidence also suggests that, in some countries, women hold fewer Science, Technology, Engineering & Mathematics (STEM) jobs¹⁴, which often tend to be better-paid, more highly skilled jobs. This suggests that women may be in a weaker position to develop better-paid skills for future competitiveness. To close the gender gap, support for ICT skills training is needed in countries at all levels of development.

Women are disproportionately under-represented in ICT employment. In OECD countries, women account for less than 20% of ICT specialists¹⁵. 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. On the macroeconomic level, more women are needed in ICT to drive industry and economic growth (Featured Insight 2).

On the microeconomic level, empowering women through access to ICTs and the opportunity to acquire and use new ICT skills could help them access better, more skilled jobs, earn more income from new sources (e.g., microworking) and raise the standard of living of themselves and their families. This is all the more important, as there is evidence to suggest that a large number of the world's poor are women and children (UNDP, 1995¹⁶).

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) identifies similar services such as Babajob (India), Assured Labor (United States), LabourNet (India), and Souktel (Palestine), which are up and running, and others (such as Pakistan Urban Link and Support and Konbit in Haiti), which are under development¹⁷.

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 less able to obtain 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.

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 real opportunity today is to strategically use ICTs in general and broadband in particular to directly address such inequalities and start closing all these gaps in the short and medium terms in innovative fashion.

¹⁴ "Women in STEM: An Opportunity and An Imperative", U.S. Department of Commerce, available at: www.esa.doc.gov/Reports/women-stem-gender-gap-innovation and www.commerce.gov/blog/2011/08/03/women-stem-opportunity-and-imperative

¹⁵ www.itu.int/ITU-D/sis/Gender/Documents/ITUBrightFutureforWomeninICT-English.pdf

¹⁶ UNDP Human Development Report 1995.

¹⁷ World Bank (2012), "Information and Communication for Development 2012: Maximizing Mobile".

¹⁸ www.cisco.com/web/learning/netacad/index.html

Featured Insight 2: 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, the Cisco Networking Academy programme¹⁸ prepares students for IT careers and higher education in engineering and computer science through coursework and training in 10,000 academies, in 165 countries. Over four million students have benefited to date, and the programme now welcomes a million students a year. The Cisco Networking Academy began in 1997, and today partners with institutions ranging from secondary schools and universities to community organizations such as vocation training centres and correctional facilities. ICT education is provided through in-classroom learning and innovative cloud-based curricula, to help students improve their careers and economic opportunities. 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. See also Annex Box 2.





**WHERE WE STAND TODAY –
OVERALL OBSERVATIONS**

This chapter sets out some broad observations about ICT gender gaps and Internet gender gaps based on current evidence, in the hope that these observations will serve as a starting point from which to launch the conversation.

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”¹⁹. Other ‘gaps’ or differences in behaviour 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. Gender gaps are often evident 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.

2. Further, there are a number of different ways to measure ICT and Internet gender gaps (Featured Insight 3), some of which may yield different conclusions about any specific situation (see Box 2 for an illustration of how different measures can yield different conclusions on gender equality, potentially clouding discussions on this issue).

Methodological problems are exacerbated by differences in data collection methods and data availability issues. For example, methodological differences in gathering the data include: 1) Government surveys/estimates (e.g. ITU); 2) user surveys on the demand side (e.g. Research ICT Africa) and 3) usage of services (e.g. Facebook data). Hafkin (2012) draws

attention to the significant lack of data available for many countries, especially official data²⁰. It is notable that, of all the gender-disaggregated data included in the WEF’s Global Gender Gap Report²¹, access to ICTs is 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)”²².

The Partnership on Measuring ICT for Development²³ has defined a number of gender-relevant core ICT indicators (see Annex 1). ITU has collected sex-disaggregated data since 2007 through an annual questionnaire sent to its member countries. While data for developed countries are largely available, in the developing world, only a small (albeit increasing) number of countries collect ICT use statistics (which can be broken down by sex) as part of their regular household surveys.



¹⁹ Page 2, Bimber (2000), “Measuring the Gender Gap on the Internet”, available at: www.dleg.state.mi.us/mpsc/electric/workgroups/lowincome/internet_gender_gap.pdf

²⁰ Dr. Nancy Hafkin, as represented in “Gender and ICT statistics: the policy perspective”, presentation by Dr. Hafkin, 10th ITU World Telecommunications/ICT Indicators Meeting (WTIM), 25-27 September 2012, Thailand.

²¹ World Economic Forum Gender Gap Report: www3.weforum.org/docs/WEF_GenderGap_Report_2012.pdf

²² Pyramid (2012), “Gender and ICT: Identifying sources of data and proposed indicators”, presentation by Sonia Jorge, 10th ITU World Telecommunications/ICT Indicators Meeting (WTIM), 25-27 September 2012, Thailand.

²³ See www.itu.int/en/ITU-D/Statistics/Pages/intcoop/partnership/default.aspx

Featured Insight 3: Measuring In/equality in Internet Use

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:** This measure presents the difference between the total of female Internet users and the total of male Internet users. Absolute numbers do not take into account total populations of men and women – men outnumber women globally by 62.5 million, but women outnumber men in developed world.
 - Example: The global gender gap is estimated at 200 million fewer women online (ITU, 2013).
 - Example: In India, there are an estimated 60 million women and girls online, compared to 80 million male Internet users in mid-2013 (Google, 2013²⁴).
- 2. Proportion of total men and proportion of total women who use the Internet:** this measure indexes the number of male Internet users relative to the total male population and the number of female Internet users relative to the total female population who could potentially go online, *ex ante* or prior to the decision/ability to go online, relative to the pool of potential users.
 - Example: 80 million men divided by the total male population of India of 656 million gives a male Internet penetration rate of 12.2%; 60 million women of a total female population of India of 614 million gives a female penetration rate of 9.8%.
 - Examples: ITU Yearbook of Statistics (2009, 2010, 2011, 2012), ITU World Telecommunication Development Report (2002), World Internet Project (2009), and Microsoft (2013) provide and use such percentages for a number of countries.
- 3. 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).
 - Example: the relative gap is 16% in the developing world and 2% in the developed world, calculated relative to the total number of male Internet users in each region. However, again, this does not take into account total populations.
 - Example: World Economic Forum's Gender Gap Report focuses on relative gaps, not levels.
- 4. 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.
 - Example: ITU's gender gap in Internet use (Figure 1) – the gender gap in Internet use using this approach can be calculated using this approach from the penetrations in Figure 1.
 - Example: 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 2008²⁵, giving a gap of 33%.
- 5. Gini coefficients and Lorenz curves:** Gini coefficients and Lorenz curves assess the rate at which a divisible measure (such as individual Internet use) 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.
 - Example: the Gini coefficient of female/male Internet use for India is 0.867.

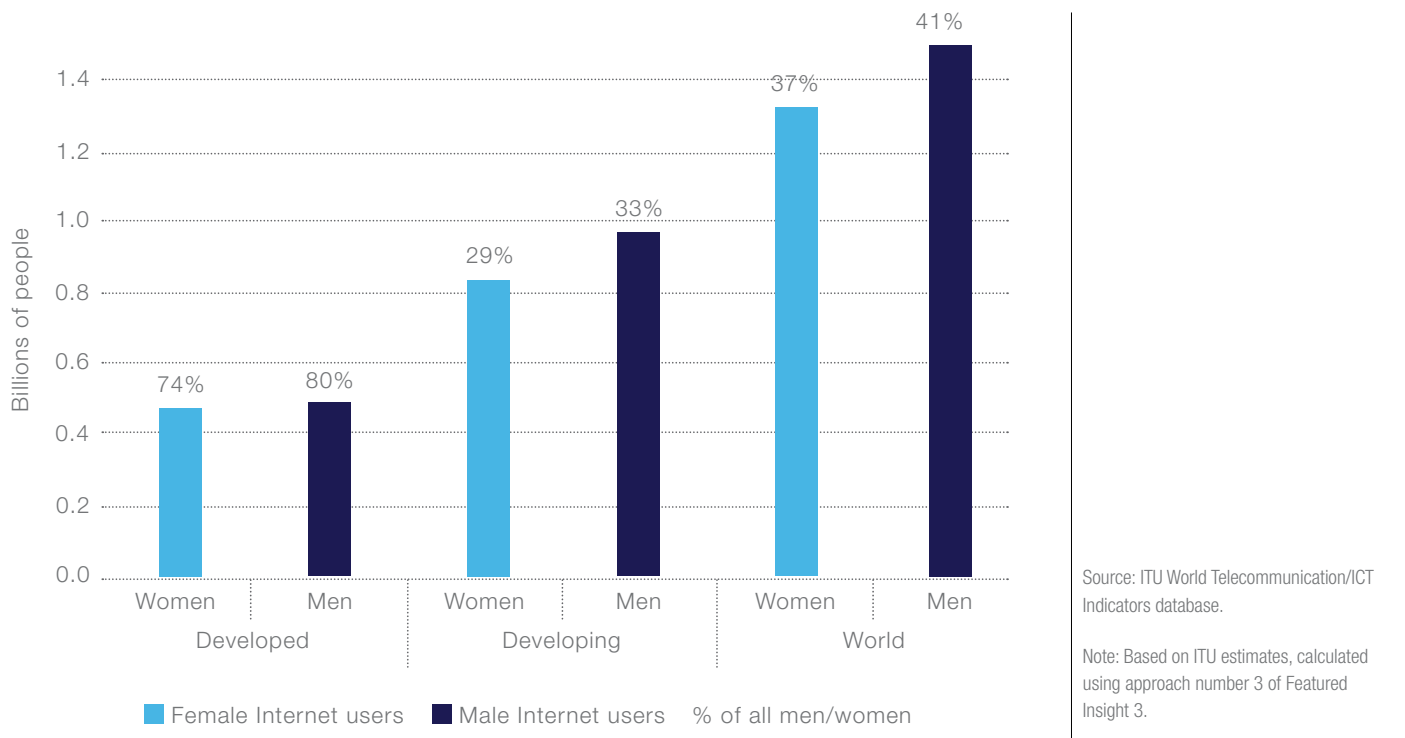
6. Measures of skew in the Internet user population: Another common measure of gender in equality in Internet use is the relative percentages of male/female Internet users, in *ex post* Internet users who have actually made it online (this is implicitly compared with readers' intuition that gender equality would be 50:50, based on equal numbers of men and women).

- Example: the ratio for Indian male/female Internet users is 6:4 or 60% to 40%.
- Example: Dina (2009) notes that women represented 39% of total Internet users in Egypt²⁶.

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 to be explored.

Source: ITU.

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



²⁴ www.livemint.com/Consumer/HmGlgQ2L1hAY7BCAHcJBxL/Internet-influence-highest-for-skincare-products-among-India.html

²⁵ Internet penetration was calculated as the number of women Internet users divided by the total number of women based on data of MCIT and projected population figures based on data from the census of 2006 published by CAPMAS (2007b) – www1.aucegypt.edu/src/wsite1/pdfs/rewebsite_cida/Dina_No4.pdf

²⁶ Internet penetration was calculated as the number of women Internet users divided by the total number of women based on data of MCIT and projected population figures based on data from the census of 2006 published by CAPMAS (2007b) – www1.aucegypt.edu/src/wsite1/pdfs/rewebsite_cida/Dina_No4.pdf

In order to address the lack of data related to ICT and gender, the Partnership on Measuring ICT for Development has established a Task Group on Gender – Annex 1 lists the gender-related indicators developed so far by the Partnership. Women in Global Science and Society (WISAT) has published a Framework on Gender Equality in the Knowledge Society (GEKS). In March 2013, the ITU/UNESCO Broadband Commission for Digital Development endorsed its fifth broadband advocacy target calling for gender equality in access to broadband by 2020. Today, one of the key barriers to measuring progress in achieving this target remains the lack of sex-disaggregated and gender-sensitive data and indicators.

3. Although *ex post* ICT gender gaps are generally closing 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 total global Internet gender gap of 200 million.

Box 2: Measuring 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 of 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, an 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 *ex post* Internet access of 2:1 reflects the underlying gender inequality in the population of 2:1.

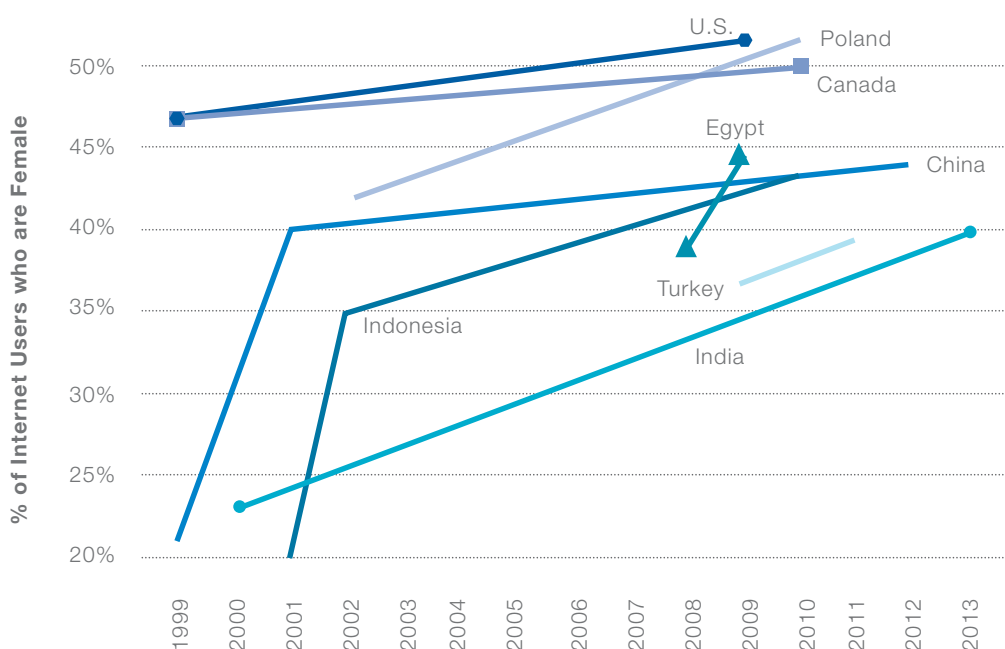
In reality, for many countries, these proportions are measured in many millions (rather than individuals) and the numbers of males and females are roughly equal in many national populations (which means that such an extreme example is unlikely to apply). Nevertheless, this example highlights some of the dangers in using different statistical measures, which may yield different, and even conflicting, results from the same data, according to the method used.

Source: Broadband Commission Secretariat.

The gender gap is currently more pronounced in developing countries, where 16% fewer women than men use the Internet, compared with only 2% fewer women than men in the developed world (ITU, 2013²⁷). According to Intel, in 2011, of a total Internet user population in developing countries of 1.4 billion, 800 million were men and 600 million were women. In terms of Internet user penetration, there are 21% of women and girls online and 27% of men and boys online. This gives a gender gap for all 144 developing countries of 23%²⁸ (i.e. 23% fewer women than men were online in the developing world), and a total global Internet gender gap of 200 million in 2011. Without further action, Intel forecasts that the Internet gender gap could grow to a total gender gap of 350 million in three years time²⁹.

Incrementally slow, but steady reductions in Internet access gaps are observed in a number of countries, which are consistent with trends in gender gaps observed over time in other fields (e.g. education and parliamentary participation, according to the World Economic Forum's Gender Gap Report, 2012³⁰). Huyer, Hafkin, Ertl & Dryburgh (2005) note that women's rate of Internet access does not always increase in tandem with national rates of Internet penetration, and high overall ICT penetration does not guarantee equitable access by gender³¹ – for example, the Arab States offer some examples of high-income, relatively high penetration countries with comparatively high gender inequality in ICT. The search is on to find policies and programmes which can accelerate the rate of women logging on – see Chapters 5 and 6.

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



Source: Various; historical data from World Bank Toolkit³², ITU World Telecom Development Report 2002.

²⁷ ITU ICT Facts and Figures 2013.

²⁸ Intel's Internet gender gap for developing countries is calculated using approach number 4 in Featured Insight 3.

²⁹ Intel, "Women and the Web" report, January 2013, available at: www.intel.com/shewill/

³⁰ World Economic Forum Gender Gap Report 2012: www3.weforum.org/docs/WEF_GenderGap_Report_2012.pdf

³¹ Huyer, S., N. Hafkin, H. Ertl and H. Dryburgh (2005), "Women in the Information Society." In From the Digital Divide to Digital Opportunities: Measuring Infostates for Development. Montreal: Orbicom, 2005.

³² web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTGENDER/EXTICTTOOLKIT/0,,contentMDK:20272986~menuPK:562601~pagePK:64168445~piPK:64168309~theSitePK:542820,00.html

4. Although gaps in ICT access reflect broader social and cultural divides, the roots of these gaps are complex and multi-dimensional, as are their consequences. Digital gender gaps reflect gender inequalities throughout societies and economies, and a range of socio-economic and political factors affect gender divides. It is widely and consistently established that women experience discrimination around the world in fields such as employment, income, health and education (see Anand & Sen, 1995, or the World Economic Forum's Global Gender Gap Report), partly reflecting cultural biases and/or household decisions about relative reward/return on 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 effects³³.

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'³⁴). According to Hilbert's analysis, fewer women access and use ICT as a direct result of their unfavourable 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 access³⁵. Affordability, gaps in wages and therefore gaps in purchasing power are major determinants of the different abilities of men and women to access ICTs (Featured Insight 4). 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 fees³⁶.

Intel (2013) notes the role of illiteracy in inhibiting access to the Internet, which poses a greater barrier to online access by women than by men³⁷. Across all developing countries, only 75% of women are literate, compared to 86% of men, with far greater margins of difference in some countries. Without this fundamental skill, the Internet will remain out of reach – at least until computers can fully support natural-language voice interfaces. Conversely, access to the Internet or even to a mobile phone could help improve literacy rates³⁸.

³³ Page 2, Bimber (2000), "Measuring the Gender Gap on the Internet", available at: www.dleg.state.mi.us/mpsc/electric/workgroups/lowincome/internet_gender_gap.pdf

³⁴ Computer anxiety has been defined by Cooper (2006) in his authoritative review of twenty years of research on the subject as "adverse anxiety reactions to the use of computers": Cooper, J.J. (2006), "The digital divide: The special case of gender", *Journal of Computer Assisted Learning*, 22(5), 320-334.

³⁵ Gurumurthy, Anita, A New Goal to Ensure Equal Participation of All in the Network Society Beyond the horizon of MDGs, IT for Change, 2012, www.bit.ly/13VH3Aa

³⁶ CEPAL/ECLAC: Banda ancha en América Latina: más allá de la conectividad, at: www.bit.ly/14O3MRs

³⁷ Intel, "Women and the Web" report, January 2013, available at: www.intel.com/content/dam/www/public/us/en/documents/pdf/women-and-the-web.pdf

³⁸ Remarks by Prof. Mohammed Yunus to the Sixth Meeting of the Broadband Commission, September 2012.

³⁹ ITU (2012), "Measuring the Information Society 2012" report, Geneva.

Featured Insight 4: 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 Africa 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 (2012) notes that in sub-Saharan Africa, fixed-broadband Internet service costs more than 100% of average monthly GNI per capita and mobile broadband costs over 50% of average monthly GNI per capita³⁹.

Such high prices disproportionately impact women, as women have lower incomes and often 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 (2013). 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.

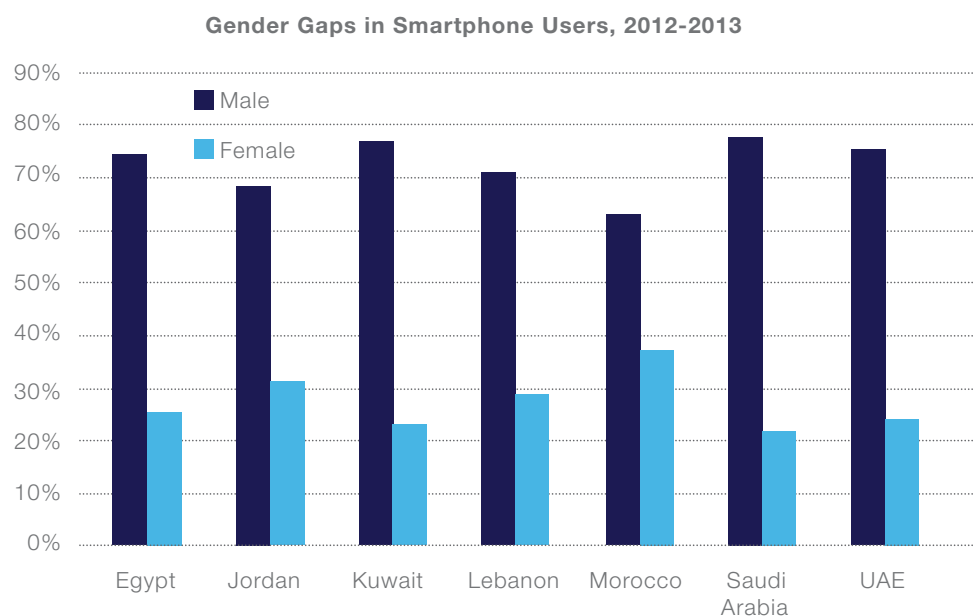
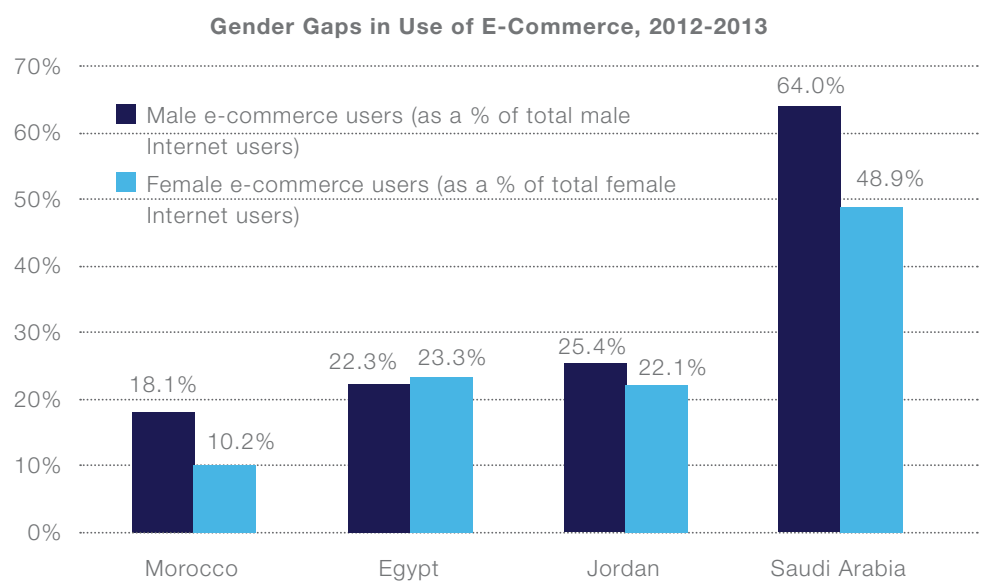
Source: The Alliance for Affordable Internet (A4AI), an initiative in partnership with the World Wide Web Foundation – see www.A4AI.org for details.



5. 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 United States, in 2008, men from the United States were more likely than women to surf the web daily (54% of men, compared to 41% of women), while men spent 1.5 hours more than women at their

monitors browsing or reading⁴⁰. In selected Arab countries, consistent and measurable gender gaps are observed in the use of e-commerce (Figure 3, top) and the use of smartphones (Figure 3, bottom), 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, 2012-2013



Source: Arab Advisors Group, 2013.

Hafkin (2012)⁴¹ 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, 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)⁴² 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 social and economic 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 behaviour and outlook are complementary, and should be celebrated.

6. Gender gaps extend far beyond gaps in basic access to ICTs; gender gaps are also strongly evident in terms of the content accessed. Today, broadband networks are increasingly serving as key platforms for delivery of films, TV and other rich-content resources, which people – men, women, teenagers and children – consume every day. In addition to reliable, affordable and fast access, access to content relevant to specific contexts and languages is also critical. This also entails being able to use and interact in online spaces without fear of surveillance, data retention, threats, harassment, intimidation or violence. This may not be the case for many women and, increasingly, for women's human rights activists in particular⁴³.

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 bullying⁴⁴, affecting how the Internet and ICT are shaped and used by everyone.

In a number of countries with high Internet penetration (such as the United States, Canada and the United Kingdom), 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.1⁴⁵), although young men may be more reticent to admit to or report a past bullying experience⁴⁶. Nevertheless, this represents a worrying new development, with the extension of sexual content and violence in the real world into new forums online, with worrying implications for men and women.

⁴⁰ World Internet Project (2009), cited in Martin Hilbert (2011).

⁴¹ Dr. Nancy Hafkin, as represented in "Gender and ICT statistics: the policy perspective", presentation by Dr. Hafkin, 10th ITU World Telecommunications/ICT Indicators Meeting (WTIM), 25-27 September 2012, Thailand.

⁴² Pyramid (2012), "Gender and ICT: Identifying sources of data and proposed indicators", presentation by Sonia Jorge, 10th ITU World Telecommunications/ICT Indicators Meeting (WTIM), 25-27 September 2012, Thailand.

⁴³ Note recent problems in the UK, where women's rights advocates have been targeted via social media networks.

⁴⁴ Agreed Conclusions, Commission on the Status of Women 55, 2011, E/2011/27-E/CN.6/2011/12.

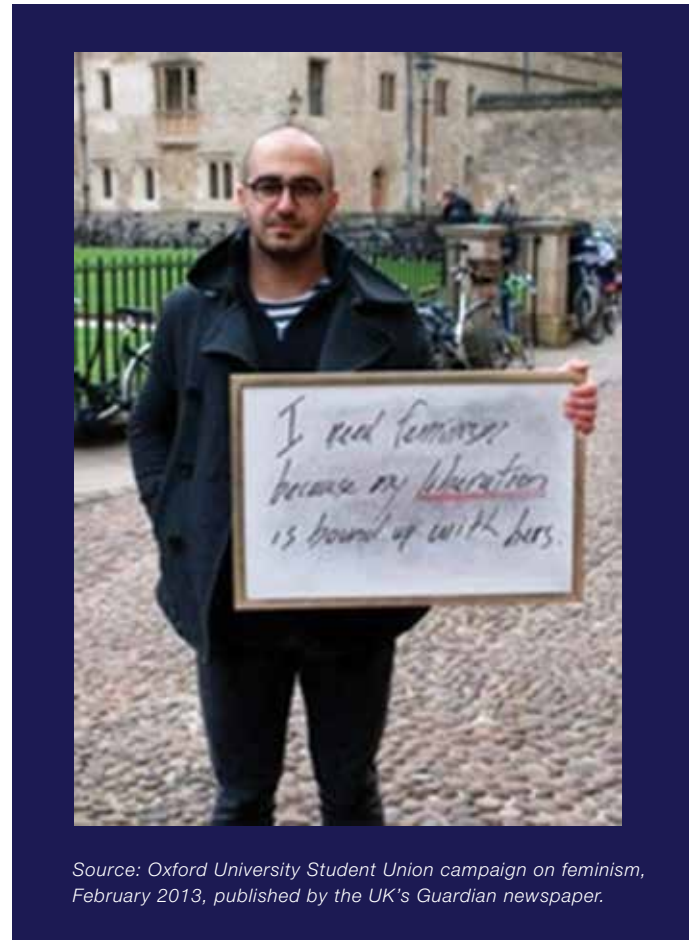
⁴⁵ Based on a 2010 study involving a random sample of 2,212 teen males and 2,162 teen females, females reported a higher percentage in all categories, with the male to female ratio varying across the following three areas: victimization within a person's lifetime (16.6% for males vs. 25.1% for females), admitted to a cyberbullying offense within a person's lifetime (17.5% for males versus 21.3% for females), and had a hurtful comment posted about oneself online (10.5% for males versus 18.2% for females).

⁴⁶ www.elon.edu/docs/e-web/academics/communications/research/vol3no1/04DoneganEJSpring12.pdf

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 students⁴⁷. Moran (2011) notes that practices which were among niche practices of adult entertainment sites a decade or more ago are now increasingly mainstream for women and young girls in Western societies, including full depilation of the pudenda and niche sexual practices, on the basis that some youth of today are now exposed to such content 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. Recent research by the Geena Davis Institute on Gender in Media, its programming arm See Jane, and the Annenberg School for Communication at University of Southern California found stark inequalities in the representation and gender of characters on-screen – 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. As Geena Davis has observed, “despite making up 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”. This suggests that gender stereotyping remains deeply entrenched in today’s entertainment media, which is a cause for major concern, as the influences children are exposed to during childhood may in shape their outlook and notions of identity and aspirations from an early age.

These negative influences could potentially negate the very positive influence online content and apps can have in educating Internet users against sexual violence. Box 3 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.



Source: Oxford University Student Union campaign on feminism, February 2013, published by the UK’s Guardian newspaper.

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 as integral part of ICT policies. The next chapter considers the role of gender in ICT and broadband policy development.

⁴⁷ Page 255, Jones, S. Johnson-Yale, C. Millermaier, S. and Perez, F. (2009) « U.S. College Students’ Internet use : Race, gender and digital divides”, Journal of Computer-Mediated Communication, 14(2), 244-264.

Box 3: 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, in 2012, there was a 23.8% increase in estupro (including rape and other violence) reported in Rio de Janeiro, compared to 2011. 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: www.unwomen.org/en/news/stories/2013/6/rio-de-janeiro-apps-to-end-violence-in-favelas#sthash.D1RUQYNe.dpuf.



4

**POLICY DEVELOPMENT,
GENDER AND
BROADBAND**



Policy plays a key role in shaping ICT for development agendas, as well as uptake and demand for broadband services⁴⁸. Now more than ever, ICTs are ubiquitous and pervasive, permeating our everyday activities (and objects), and are indeed ‘socially-embedded’. At the same time, ICTs are key enablers for development and thus have the potential to impact most sectors of society. Historically, however, Governments have tended to regard ICT policy development as mostly a technical matter and have thus tended to keep essential social and economic concerns away from it.

There is a need to consider technology policies, as well as approaches to policy development, through a more holistic lens, and to introduce the social implications of ICT policy into all development areas, including gender⁴⁹. ICT policy development does not stand alone, but is closely linked to education, health, governance, inequality, agriculture, finance, science and many others, all having direct impact on gender equality issues. An innovative approach – and mindset – for policy development is thus needed.

In general, ICT policies and policy development should be readily linked to other national development and strategic policies. In most cases, when we look at developing countries in particular, we find that policies and strategies for many sectors and areas are already in place – from national development and e-governance plans to national competitiveness policies and sustainable development strategies. The issue here is that most of these policies and strategies are seemingly disconnected – and in many cases, they actually compete against each for scarce resources. So the first step in innovating and changing mindsets is to foster the creation of integrated policy development frameworks where key national development goals and targets can lead the pack.

Here, ICTs have a distinctive advantage as they are cross-cutting and thus can be the glue that brings many other broader policies together. The same can be said about broadband. Broadband is an enabler that can help address key service delivery gaps, enhance the participation of people in policy-making and foster transparency and accountability of public

institutions and private sector entities, among others. ICT and broadband policies should have direct links to other national socio-economic development policies, and be seen as enablers that can help achieve agreed development targets within a national or local context.

A similar argument can be made in the case of gender equality. Gender-specific policies have been promoted in many countries, especially since the 1995 Beijing World Conference on Women and the promotion of National Gender Machineries in many countries. Since 2000, there has been significant growth in National Gender Policies, which complement or supplement these machineries. Being that as it may, these policies do not systematically take ICTs into account and thus do not fulfil their potential for driving development. By the same token, most ICT and e-governance policies do not openly tackle gender. On the contrary, there seems to be an assumption that ICTs, somehow or automatically, will promote gender equality, implicitly assuming that ICTs are gender-neutral.

Integrating gender perspectives into national ICT policies is a key aspect in policy development which is readily measurable and has been the subject of recent research by the Broadband Commission. Gender concerns are largely absent from ICT policies, just as ICT is largely absent from gender policies. Recent Broadband Commission research demonstrates that in 2012, only 30 countries or 29% of 119 countries included reference to gender as an issue in their National Broadband Plan (NBP)⁵⁰. The Global Initiative on Inclusive Information and Communications Technology (G3ict) puts this proportion lower for overall policy, reporting that just 14% of countries had policies in place for women⁵¹.

Figure 4 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 5 notes that many countries have yet to extend their broadband policy to include gender.

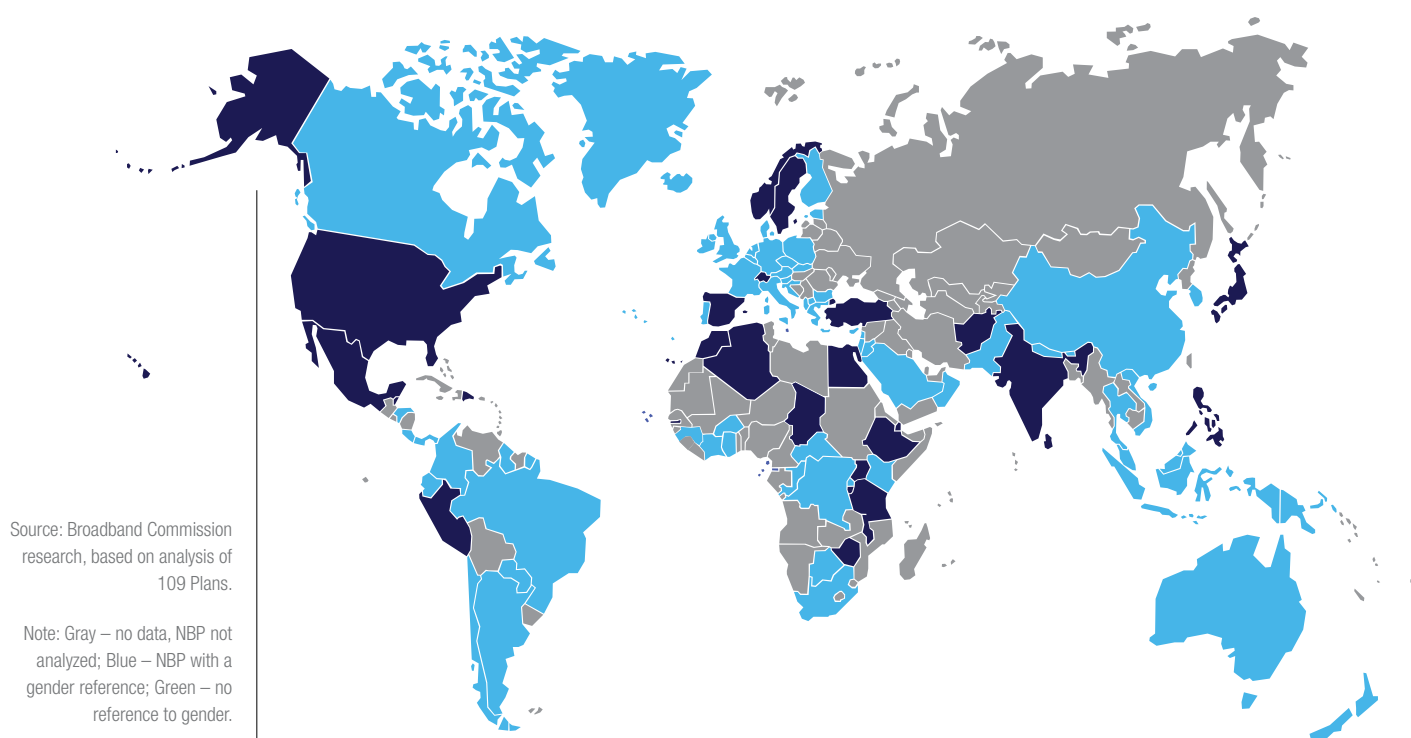
⁴⁸ “Planning for Progress: Why National Broadband Plans Matter”, by ITU/Cisco/Broadband Commission, available at: www.broadbandcommission.org

⁴⁹ Dr. Nancy Hafkin, as represented in “Gender and ICT statistics: the policy perspective”, presentation by Dr. Hafkin, 10th ITU World Telecommunications/ICT Indicators Meeting (WTIM), 25-27 September 2012, Thailand.

⁵⁰ Broadband Commission “Gender in National Broadband Policies: Discussion paper by the Broadband Commission Secretariat, March 2013”, available from: www.broadbandcommission.org.

⁵¹ The Global Initiative on Inclusive Information and Communications Technology (G3ict)’s second annual report, “Convention on the Rights of Persons with Disabilities: 2012 ICT Accessibility Progress Report”.

Figure 4: Inclusion of Gender in Countries' National Broadband Plans, mid-2013



Featured Insight 5: Women and 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 is 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 is 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).

Among the thirty national plans which did include gender aspects, ICT training for women which was included in 17 plans or 57% of them. Such 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 centres and programmes. For example, Chad's National Broadband Plan aims at developing 18 such training centres within a four-year timeframe.

The second most referenced category was 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 favourable 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 and governance processes. 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.

4 Categories of gender references in National Broadband policies:

1. Actions to increase women's ICT skills;
2. Actions to provide equal access to ICTs for women (promoting digital inclusion);
3. Actions to promote female empowerment through broadband and ICTs; and
4. Actions to promote women's role in decision making (government, private sector) through ICT use.

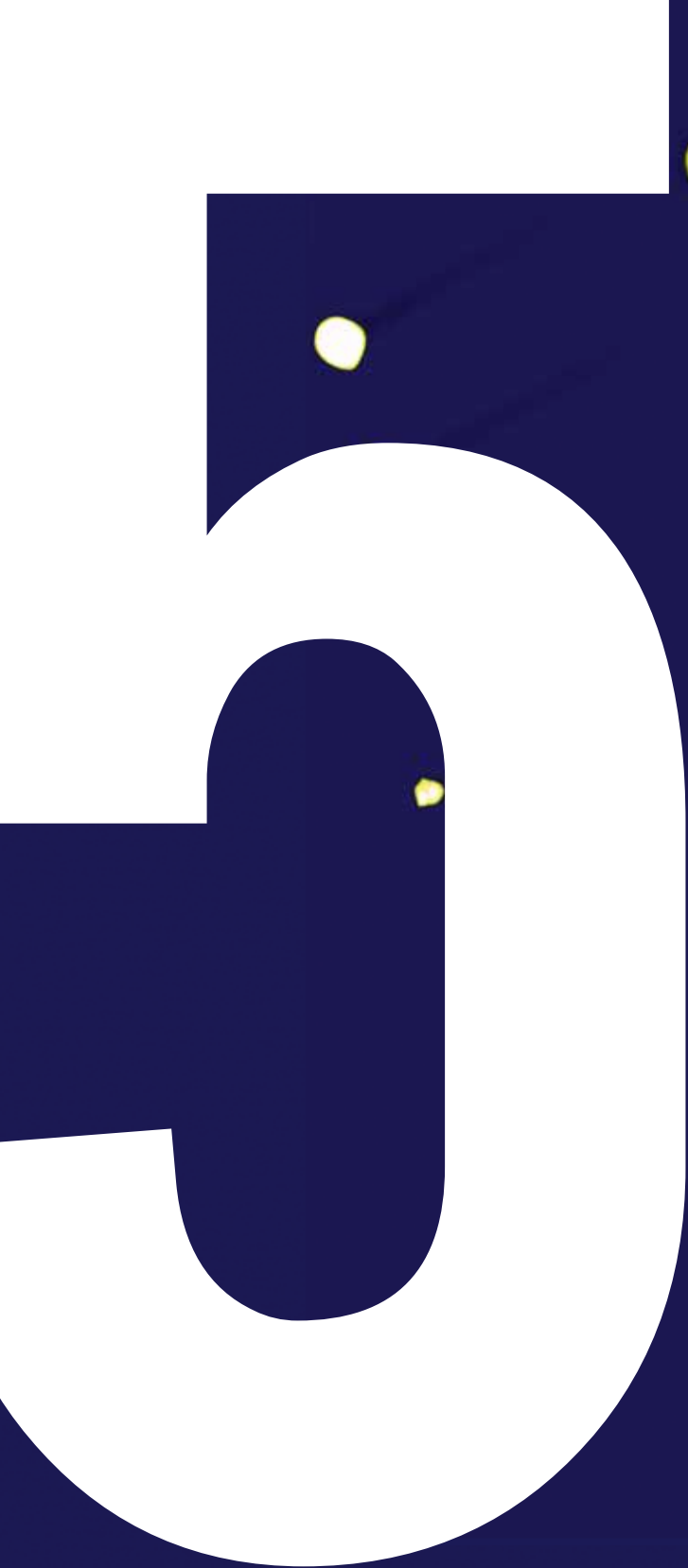
The good news is that countries' approach to broadband policy is slowly becoming more comprehensive over time. From a narrow focus on ICTs at the start of this century, National Plans and Policies are shifting to broader considerations of the Digital and Development Agendas, with more countries including socio-economic and political considerations in their national policies⁵².

Pyramid (2012)⁵³ notes that implementing gender-disaggregated and ICT indicators could help in the effort to develop informed and gender-aware policies and programmes. They could also help in the development of a comprehensive vision of growth opportunities (e.g., targeted market segments) and development priorities (e.g., market gaps).

There is a need to both prioritize gender equality issues at the highest levels of policy-making and link ICT policies to existing gender and development policies to ensure that Governments and policy-makers consider the real potential of broadband as an enabler for development. ICT and broadband policy should no longer be seen as a technology-only area – instead, the social and development impact of broadband policy needs to be brought to the forefront of all development-related policies. The next chapter examines some of the programmes which have been developed to date to enhance female access to broadband and ICTs.

⁵² "Planning for Progress: Why National Broadband Plans Matter", ITU/Cisco/Broadband Commission, available at: www.broadbandcommission.org.

⁵³ Pyramid (2012), "Gender and ICT: Identifying sources of data and proposed indicators", presentation by Sonia Jorge, 10th ITU World Telecommunications/ICT Indicators Meeting (WTIM), 25-27 September 2012, Thailand.



**PROGRAMMES
AND BEST PRACTICES**

5.1. INTRODUCTION

The previous chapters have 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 many programmes are 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 knowledge-based societies.

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, and 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. It should be noted

that there is a great deal of important work underway in different regions, which it was not possible to include in this Report. With further reference to the detail on the work of various member organizations in Annex 2, this chapter highlights some of the work underway to:

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

Under the following thematic headings:

- 5.2. Women and Access to ICTs
- 5.3. Women, ICTs and Education
- 5.4. Women, ICTs and Skills for Employment
- 5.5. Women, ICTs and Entrepreneurship
- 5.6. Women, ICTs, Empowerment, Participation and Capacity-Building
- 5.7. Women, ICTs and Content

5.2. WOMEN AND ACCESS TO ICTS

Many different organizations are working to ensure greater female access to ICTs, on the basis that ICT access for women is beneficial (as discussed in Chapter 2). Greater access to ICTs enables women to access more information, acquire new skills, learn from the experience of others, and find solutions to their problems and development challenges, at both the individual and community levels.

The World Bank, ITU, the GSM Association (GSMA) and other institutions and firms have identified that mobile phones are especially important and may offer

the greatest potential for bridging the digital divide⁵⁴, as the most widespread technological platform for access, with mobile cellular phone subscriptions projected to reach 6.835 billion worldwide at the end of 2013⁵⁵. ITU and the United Nations Conference on Trade & Development (UNCTAD) have consistently pointed out that the Gini coefficient for mobile phones is lower than that of other ICTs⁵⁶, implying that mobile phones are the most evenly distributed modern communications technology. To empower women to the fullest extent, applications and services should be made available via mobile as a priority (e.g. mbanking).

⁵⁴ See, for example, World Bank (2012), "Information & Communication for Development 2012: Maximizing Mobile", and Chapter 2 of "The State of Broadband 2013: Universalizing Broadband" report, ITU/UNESCO Broadband Commission for Digital Development (2013).

⁵⁵ ITU ICT Facts and Figures, 2013.

⁵⁶ UNCTAD ICT Development Indices, 2003 and 2004.

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 *Women and Mobile: A Global Opportunity* report by the GSMA/Cherie Blair Foundation for Women, estimated that women are 21% less likely than men to own a mobile phone, representing a global gender gap of 300 million women

and a US\$13 billion missed market opportunity for the mobile industry⁵⁷. Key barriers to women's mobile access include cost, culture, technical illiteracy and perceptions of value. Featured Insight 6 describes some interesting initiatives by operators to increase access to ICTs. See Annex Box 1 and II.6 for further detail on the GSMA *mWomen Programme* and other work on boosting female access to ICTs.

Featured Insight 6: Initiatives in the Mobile Industry for Increasing Access to Mobile

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 and designing products and services to suit them. 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.

Source: Dr, Anne Bouverot, Director General, GSMA.

⁵⁷ GSMA/Cherie Blair Foundation for Women, 2011, at: www.gsma.com/mobilefordevelopment/wp-content/uploads/2013/01/GSMA_Women_and_Mobile-A_Global_Opportunity.pdf

⁵⁸ www2.alcatel-lucent.com/foundation/connected/index.html#sthash.nnzTxDnh.dpuf

5.3. WOMEN, ICTS AND EDUCATION

Many institutions are working to integrate ICTs into education and promote education, numeracy and literacy for women and girls using ICTs. The goal is to help empower girls early on, and to benefit them and their families throughout later life by giving them early access to improved education. The aim is two-fold: firstly, to improve broader education by enhancing and improving learning outcomes through greater access to ICTs and broadband; and secondly, to include ICT skills in educational curricula, so girls and boys can be exposed to vital tech skills from an early age.

For example, the United Nations Educational, Scientific and Cultural Organization (UNESCO) is promoting literacy programmes that adopt innovative approaches with the application of ICTs in programmes

specifically targeting women and girls, including via mobiles. UNESCO also supports its Member States to mainstream gender in education policy and planning. 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 analyze their curricula with a gender lens. In Malaysia, gender was mainstreamed in the review of the policy on ICTs in education. See Annex II.3 for further detail on UNESCO's work to promote gender equality in access and use of ICTs via education.

5.4. WOMEN, ICTS AND SKILLS FOR EMPLOYMENT

Many institutions are focusing on improving women's ICT skills for employment to improve women's opportunities for employment, raise their incomes and quality of life. For example, ITU has trained some 800,000 women to date through the ITU-Telecentre.org Foundation Women's Digital Literacy Campaign. See Annex II.2 for further detail on ITU's work to promote gender equality in access and use of ICTs and ICT skills. A number of private sector companies now also run programmes and initiatives to extend access to ICTs and ICT skills. The work of Cisco's Networking Academies is described in Annex Box 2 and Annex II.7. Intel runs a programme of training centres, with a requirement to train an equal number of girls as boys – they have trained a total of 7 million students and 3.5 million girls to date (Annex Box 3). The Alcatel-Lucent Foundation partnered with World

Education Inc. to launch ConnectEd in April 2011 to address factors limiting the work and life options of disadvantaged youth, girls and women⁵⁸. The programme has helped 13,500 young people from marginalized communities in Australia, Brazil, China, India, and Indonesia 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 serve as role-models and mentors. In 2012, Ericsson provided ICT-based secondary education for girls partnering with the Earth Institute and Millennium Promise to establish "Connect To Learn." By mid-2013, the programme is active in 33 schools in 14 countries, enabling access to education to more than 17,000 students, most of whom are female.

5.5. WOMEN, ICTS & ENTREPRENEURSHIP

Female entrepreneurship has been a key focus for some institutions in particular, on the basis that women invest significantly in their families and communities, so encouraging female entrepreneurship can help raise communities' standard of living. For example, *infoDev* hosts various work on gender equality and female entrepreneurship through its mLabs in Africa⁵⁹. 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. For example, UNCTAD has teamed up with the ILO to integrate ICT into ILO's national assessments of the environment for women's entrepreneurship development (WED). This project, which is financed by the Swedish International Development Cooperation Agency (SIDA) and Irish Aid, will assist policy-makers and development partners to identify policy recommendations to improve the environment for women's entrepreneurship in developing countries. The first WED assessments are currently underway in Kenya, Tanzania and Uganda⁶⁰.

5.6. WOMEN, ICTS, EMPOWERMENT, PARTICIPATION & CAPACITY-BUILDING

A large number of agencies, organizations and institutions focus on female empowerment as a major goal for their work. Women's empowerment is probably one of the hardest goals to realize, monitor or measure, as it also requires improvements in women's agency and ability to exert influence and exercise choice (Box 1).

Among the many institutions with programmes to empower women, UN Women carries out a significant body of work aiming to empower women and improve their welfare worldwide. Annex II.4 describes the work of UN Women.

UNDP is a founding partner of the International Knowledge Network of Women in Politics (iKNOW Politics), an online, interactive network that pools resources, experts and networks to enhance worldwide women's access to information, expertise and dialogue about political participation. Since its creation in 2007 by UNDP and four other international partners (the International Institute for Democracy and Electoral Assistance, the Inter-Parliamentary

Union, the National Democratic Institute and UNWomen), iKNOW Politics has become a one-stop-shop for those committed to helping women in the political arena across continents and languages. For further detail on UNDP's extensive work to empower women, see Annex II.1.

UNESCO is also working to empower women through access to information and knowledge by addressing gender-specific needs. 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. UNESCO hosts various projects on these initiatives – see Annex II.3. In collaboration with ITU, UNCTAD and UNDP, UNESCO co-organized the WSIS+10 Review meeting in February 2013 with 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.

5.7. WOMEN, ICTS & CONTENT

Comparatively fewer organizations focus on appropriate female content for women, probably on the basis that access is the initial barrier to overcome, and assuming that once online, women may generate their own relevant content. These assumptions ignore what is known about the important role of content in driving and generating demand.

For example, the World Bank has developed and released a *Gender Data Finder* as a free mobile 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 Twitter⁶¹. Box 4 describes a hackathon sponsored by the World Bank in Nepal aimed at ending violence against women via improved access to ICTs. See Annex II.5 for further detail on the World Bank's work.

Box 4: World Bank Hackathon in Nepal

In June 2013, the World Bank sponsored a hackathon, which emerged from similar events organized by Bank, where more than 80 young techies and civil society representatives joined forces to find ways and address the problem on how we could end violence against women in Nepal through use of ICTs⁶², where patriarchy is a deeply-rooted problem. 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.

⁵⁹ www.infodev.org/gender

⁶⁰ See unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-ILO-UNCTAD-Project.aspx.

⁶¹ itunes.apple.com/us/app/id604385779?mt=8

⁶² www.huffingtonpost.com/ravi-kumar/young-people-use-tech-to-_b_3612004.html

A large, white, sans-serif number '6' is the central focus on the left side of the page. The background is a deep blue, decorated with several glowing yellow light trails that resemble fiber optic cables or data paths, extending from the top and bottom edges towards the center.

6

**CONCLUSIONS
AND POLICY
RECOMMENDATIONS**

This Report has highlighted the relevance of gender equality and women's empowerment for long-term sustainable development. Gender issues are of key importance not just because they address the basic human rights of billions of women and girls in the world, but also because they have positive economic, social and political impact throughout society. ICTs and broadband, as key enablers of development, can play a central role by furnishing new tools and solutions to core gender gaps.

Chapter 3 provided statistical evidence of the gender gap in access to ICTs and broadband. It showed that, despite important gains, much still remains to be done. Chapter 4 concluded that policy development is critical to close the gap, and suggested the need to develop integrated policy frameworks where gender equality is integrated into ICT and broadband policy-making, while arguing that ICT and broadband national plans should also include national gender strategies which usually omit ICT. Chapter 5 provides examples of good practices in programmes and initiatives that have successfully address gender equality issues using ICTs and broadband. It aimed

to provide policy-makers with evidence that gender equality is not only a just and sound principle, but feasible on-the-ground. In view of this, the Broadband Commission Working Group on Gender presents its overall policy recommendations for promoting gender equality agendas in national policy-making, as well as practical policy suggestions to expand women's access to broadband and boost female participation in the Information Society. It is hoped that by following these five policy recommendations, Governments, working in concert with civil society and the private sector, can increase digital opportunities, achieve digital inclusion for all and address the core socio-economic and political barriers and challenges which many women face in their daily lives.

Member States should also ensure coordination between NSOs, national telecommunication policy goals and national development 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 statistics, telecommunication and development-related statistics and indicators work.

6.1. INTEGRATE GENDER & NATIONAL ICT & BROADBAND POLICIES

There is an urgent need for policy-makers to introduce strong gender perspectives into ICT policies, to devise strategies with clear goals, and to put in place measurement systems and practices to ensure gender equality is achieved. Policy needs to cover universal access, regulatory frameworks, privacy and security, licensing, spectrum allocation, infrastructure, ICT industry development and labor issues, and draw on available expertise, frameworks and tools that provide relevant guidelines.

Policy-makers designing ICT and broadband-related strategies should also be aware of existing or planned national gender strategies and machineries that openly tackle gender equality issues, but which do not usually include any ICT or broadband components. Furthermore, governments should also strive to develop integrated policy frameworks that include key development goals and targets, in addition to gender. Only in this fashion, can governments break down the policy silos that currently exist. In this light, 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.

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. Gender considerations and a gender perspective should be included in National Broadband Plans, based on a multistakeholder consultation processes with women's representatives

to ensure that women's needs are included. This may also involve:

- Annual audit and reporting of gender inclusion in published plans;
- Take stock of existing or planned national gender equality policies;
- Engage technical experts to educate, advocate, and recommend changes; and/or
- Include women's programme in Universal Service Funds (USFs)⁶³.

6.2. IMPROVE SEX-DISAGGREGATED ICT STATISTICS AND MEASUREMENT

Gender statistics should be mainstreamed in national ICT statistics and a gender perspective integrated into ICT data collection. The data collection should be based on the methodological work carried out by the Partnership on Measuring ICT for Development and its core ICT indicators, which have been internationally-agreed and endorsed by the United Nations Statistical Commission.

Gender ICT statistics efforts should be coordinated with overall national planning efforts and also be part and parcel of broader efforts. Similarly, gender advocates must become knowledgeable about ICT/telecommunications, science and technology. ICT 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 sex-disaggregated data and indicators are needed on access and usage, skills,

content, employment, education, consideration of gender issues in telecommunications policy, representation in ICT decision-making and the impact of ICTs on women. Official nationally representative sex-disaggregated statistics are not always widely available, so further attention and effort must be focused in improving data collection and availability. Further resources and support from other stakeholders are needed to improve the availability and comparability of data. Further evidence-based analysis on the economic impact of ICT access on women's empowerment is urgently needed. Governments have to incorporate gender analysis and gender-awareness into the design of policy. Finally, new tools such as crowdsourcing, social media networks and open data platforms can also be used to collect data, and to get feedback from stakeholders to refine policy and enhance programme implementation and impact.

⁶³ Currently, very few USFs include gender considerations, and USF policy could be adjusted to enable the use of USFs for expanding access for underrepresented groups such as women (in addition to rural areas).

⁶⁴ ITU World Telecommunication Development Report 2002.

6.3. BOOST THE AFFORDABILITY AND USABILITY OF ICTS

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. Industry and policy-makers need to consider how Internet access can become more affordable – for example, through a review of taxation requirements within broader fiscal policy reforms. Competitive markets and market efficiencies (including infrastructure-sharing) have been shown to result in reductions in the cost of most services⁶⁴. Equipment often costs more than double what it would, if taxes and duties were exempted on ICT devices.

Reductions in cost can also be achieved through support for public access facilities for those who cannot afford their own broadband connection or equipment (such as telecentres, libraries, multimedia and community services centres or similar social initiatives) providing high-quality connectivity for education, e-health, e-governance at affordable or subsidized prices. These social initiatives should

also offer equal opportunities to access, ICT training and participation in content development, promoting the digital inclusion of young and adult women and girls. Specific actions that can be taken along these lines include:

- Engage with device manufacturers to promote more affordable devices, including from the Global South with innovative solutions to reach bottom of the pyramid populations;
- Foster local Innovation on low-cost devices and connectivity plans;
- Incentivize development of smartphone, tablet, and computer user interfaces geared towards low literacy and limited resource environments;
- Promote local assembly and manufacturing of devices;
- Support innovators in developing user-friendly interfaces in local languages;
- Promote infrastructure sharing to lower costs;
- Foster spectrum harmonization policies to reduce access costs.



6.4. IMPROVE RELEVANT AND LOCAL CONTENT ONLINE

There is an urgent need to address the lack of relevant content and services for people in marginalized areas or areas far from a country's commercial or industrial centres. Billions of people only speak a local language. The creation of local content and applications should therefore be stimulated, such as development of websites, software and mobile tools in indigenous languages or information systems for rural women and men. To raise awareness and improve access to relevant content, policy-makers can:

- Strengthen local capacities for digitizing existing content and creating new relevant information;
- Encourage more women/girls into the ICT sector – since only when women and girls are fully involved in producing the content and services, will more content and services designed for and relevant for women appear;
- Incentivize development of services and apps geared towards women's needs and priorities;
- Foster partnerships to encourage collaboration between tech providers, manufacturers, and content providers to provide women-tailored content;
- Support the creation and the development of online content that is relevant to women and girls, and especially content developed by women and girls;
- Incentivize local developers and social entrepreneurs to develop gender relevant content that is easily accessible and understandable by local users, especially those at the bottom of the pyramid;
- Promote use of local and indigenous content that communities hold and share it online and via other means of communication;
- Consider launching online campaigns to address online harassment and other Internet safety issues.



6.5. INITIATE AN ACTION PLAN TO ACHIEVE GENDER EQUALITY IN ACCESS TO BROADBAND BY 2020

In order to help achieve gender equality in broadband access, Governments may wish to study all of the previous recommendations, package them together and consider their implementation on a sustained basis. Key entry points for the latter can include 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 is relevant to their lives.
 - Digital literacy should go beyond how to use a computer/technologies, and focus on how it can be used as a gender equality tool for empowerment, and to access new job opportunities and information.
- Empower women to participate in policy and decision-making process and hold key policy-making positions within government:
 - Create capacity building initiatives using ICTs to allow women to meaningfully participate in policy discussions;
 - Launch access to information (via ICTs) programmes targeting women and girls;
 - Support e-leadership initiatives customized for women.
- 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 the Internet to women; and direct them towards digital literacy campaigns, telecentres, government-sponsored programmes.
 - Campaigns on the relevance of STEM education for women should be launched involving all stakeholders and role models.
 - Civil Society Organizations (CSOs) should be consulted and involved on how to address cultural norms around girls/women's empowerment; and norms around technology use.
 - Innovative PPPs and multi-stakeholder partnerships should be created to ensure support for gender parity in broadband access and gender equality all around.

This set of recommendations does not exhaust all the viable alternatives that governments and development partners have at their disposal to promote gender equality in the Information Society. They however present a range of policy and implementation options that the Working Group on Gender finds most relevant and have thus prioritized. Nevertheless, we are aware that local contexts substantially vary from one country to the next. Member States are thus welcome to take these recommendations in that light and, at the same time, be as innovative as possible to promote gender equality agendas by deploying and using ICTs and broadband.

ANNEX 1: GENDER-RELATED ICT INDICATORS FROM THE PARTNERSHIP

Gender-related core indicators on individual use of ICT

- HH5: Proportion of individuals who use a computer (from any location) by sex
- HH7: Proportion of individuals who use the Internet, by sex
- HH8: Location of individual use of the Internet (8 possible categories), by sex
- HH9: Internet activities undertaken by individuals (14 possible response categories), by sex
- HH10: Proportion of individuals who use a mobile cellular telephone, by sex
- HH12: Frequency of individual use of the Internet (3 possible response categories), by sex
- Data collected by ITU at the global level
- HH15: ICT skills of individuals (adopted by the First Meeting of the ITU Expert Group on ICT Household Indicators held in Sao Paulo, Brazil, from 4-6 June 2013).

Gender-related core indicators on ICT use in education

- ED6: Proportion of learners who have access to the Internet at school (ISCED levels 1-3), by sex
- ED7: Proportion of learners enrolled at the post-secondary non-tertiary and tertiary level in ICT-related fields (ISCED levels 4-6), by sex
- ED8: Proportion of ICT-qualified teachers in primary and secondary schools, by sex

Gender-related core indicators on e-government

- Seven e-government core indicators were added to Partnership's core list of indicators, 2012, but not yet collected.
- Two of these can be sex-disaggregated:
 - EG 1: Proportion of persons employed in central Government organizations routinely using computers
 - EG2: Proportion of persons employed in central Government organizations routinely using the Internet

Source: Partnership for Measuring ICT for Development.

ANNEX II: OVERVIEW OF THE WORK OF WORKING GROUP PARTNERS

Programmes & Good Practices

This Annex lists some of the work underway to address gender inequalities in access to ICTs and Internet by members of the Broadband Commission's Working Group on Broadband and Gender:

II.1 The Work of UNDP

II.2 The Work of ITU

II.3 The Work of UNESCO

II.4 The Work of UN Women

II.5 The Work of the World Bank

II.6 The Work of the GSMA

II.7 The Work of the Private Sector

II.8 The Work of Civil Society

II.1. The Work of UNDP

UNDP coordinates global and national efforts to integrate gender equality and women's empowerment into poverty reduction, democratic governance, crisis prevention and recovery, and environment and sustainable development. Through our global network, we work to ensure that women have a real voice in all governance institutions, from the judiciary to the civil service, as well as in the private sector and civil society, so they can participate equally with men in public dialogue and decision-making and influence the decisions that will determine the future of their families and countries. UNDP's work in using ICTs to advance gender equality and women's empowerment goals is focused not on increasing women's access to ICTs but on developing the innovative strategies that will enable ICTs to make significant and positive differences in the lives of women, communities and nations. Critical to this is taking into consideration the realities of women's lives, as well as their voices and perspectives. The use of ICTs must be linked to the needs of women in order to have a positive impact on their lives.

UNDP is a founding partner of the International Knowledge Network of Women in Politics (iKNOW Politics), an online, interactive network that pools

resources, experts and networks to enhance worldwide women's access to information, expertise and dialogue about political participation. Since its creation in 2007 by UNDP and four other international partners (the International Institute for Democracy and Electoral Assistance, the Inter-Parliamentary Union, the National Democratic Institute and UNWomen), iKNOW Politics has become a one-stop-shop for those committed to helping women in the political arena across continents and languages.

Each month, iKNOW Politics draws over 25,000 unique visitors to the network from around the world. With 85% of the site's traffic from new visitors, the network continues to grow. Available in Arabic, English, French and Spanish, iKNOW Politics' online library contains over 5,324 free resources, access to over 180 international news sources and an active platform for online dialogue that caters to women from developing countries. In addition, 90 iKNOW Politics experts from 35 countries are available to answer user questions through the site. In 2012 alone, 14 discussion circles hosted on iKNOW Politics provided a space for dynamic debates on topics ranging from the role of women in politics and elections to specific topics such as campaign fundraising and women's contribution to constitution-building processes.

Addressing gender-based violence remains a key area of UNDP work, with at least a third of Country Offices engaged in initiatives for preventing and responding to gender-based violence. UNDP support includes capacity building and policy and programmatic support for developing gender-based violence legislation and building more gender-sensitive legal and judicial institutions, including by enhancing the capacities of police officers, judges, court administrators and religious leaders to ensure women's access to justice both through formal and informal processes.

In Asia and the Pacific, UNDP is supporting Partners for Prevention (P4P), a joint programme of UNDP, UNFPA, UN Women and UNV focusing on the primary prevention of gender-based violence in more than ten countries in the region. The programme is building local and regional knowledge on how to engage men and boys in preventing violence. P4P assists with the

design and implementation of communication strategies aimed at GBV prevention. P4P helps with campaign design including messages and tools targeting specific groups. For example, P4P recently supported campaigns in four countries to raise awareness among young people on violence prevention using social media platforms.

Since 2007, through the Community-Based Women Empowerment Project in the Programme for Palestinian People, UNDP has been supporting disadvantaged women and their families by providing them with economic and social services, psychosocial support, as well as provide recreational space and channels through which awareness of social issues among women is raised. The project contributes to women's empowerment in Gaza by enhancing women's skills in organizing, addressing their own problems and providing opportunities for gaining income. UNDP has helped launch four centres through which services are deployed, which include computers with internet connectivity. Since 2008, more than 1,250 women have enrolled in classes, while more than 25000 women with different kinds of physical and mental disability have received treatments through this effort.

Since 2007, the Khoun Community Radio Support Project in the Lao People's Democratic Republic has been helping enhance the opportunities by people who have been traditionally marginalized to access information and enable them to have a voice in public processes. Through the Khuon Community Radio Support Project, more people especially in remote rural areas, people from ethnic and vulnerable groups (particularly women), were able to engage with one another and share information that are relevant to their own communities using their own language. UNDP made sure that attention was given to encouraging women to participate; including encouraging women to apply for positions in the project team itself (half of the volunteer broadcasters in the radio station are in fact women).

In Madagascar, UNDP supported a programme called "the Wisdom of the Crowds", which or harnessed the power and reach of mobile technologies to collect and process the views and aspirations of young people in Madagascar, enabling them to have a voice in policies and development strategies that govern their future. Working in collaboration with three major telecom operators, the project has registered around 43,000 youth who have submitted their opinions on several key topics via SMS which has in turn informed policy-making and generated awareness around issues affecting the lives of youth. Results: Eighteen percent of Madagascar's youth participated in the test phase and 43,000 youth registered to share their views.

Since 2008, through Bridging the Digital Divide and Dreams Academy Projects in Turkey, UNDP has been helping to empower people (particularly the marginalized, including women and people with disabilities), by building their skills and providing tools to become active and productive members of society. UNDP helped develop a learning management system to provide ICTs skills building training, which has benefitted thousands looking to enhance their employability and has also opened up avenues for many to interact with each other and share information. This has, in the process, equipped people with knowledge, and provided them with empowering tools to become active participants in society. The numbers trained have risen from 100 in its first year, to 300 the next year, then 1000 in 2010, then 900 in 2011. This project specifically sought to involve women and included sex-disaggregated targets (e.g. on equal attainment of women to capacity-building activities and social inclusion programs).

In 2010, UNDP wrapped up an initiative that it launched in 2004 in 10 countries in partnership with Microsoft. The ICT-Skills Building for National Capacity Development in ten countries (Bulgaria, El Salvador, Ghana, Kazakhstan, Jamaica, Macedonia, Mauritania, Pakistan, Turkey, Yemen) helped to enable sustained social and economic opportunities for the poor and marginalized through the innovative and strategic use and deployment of ICTs. This project helped establish learning centres and trained thousands on skills that enable them to tap employment opportunities, as well as provided women in particular with the skills to widen their social and economic spheres. It established at least 24 new centres, strengthened more than 134 others across the countries; enhanced the skills of about 76,000 to become trainers, while reaching at least 75,000 more beneficiaries of whom many are women.

In Niger, UNDP helped develop the country's ICT Plan for MDG Acceleration that addresses capacity building for good governance and targets acceleration of efforts towards the achievement of the MDGs. The final evaluation report of the project is noted to contribute to knowledge sharing, particularly in the use of ICTs to improve economic performance and acceleration of the MDGs at the local level. An expansion of efforts is looking into a partnership with the private sector on m-governance, which will involve the use of mobile phones to address corruption and influence-peddling as well as enable cash transfer through mobile phones. The project is also envisioning Internet-connected health centers, and the promotion of employment for young men and women through micro and small businesses.

II.2. 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.

Over 800,000 women have been trained through the ITU-Telecentre.org Foundation Women's Digital Literacy Campaign active in 85 countries. This represents a milestone for the campaign, which aims to provide one million women with digital literacy training. ITU also maintains a 'Girls in ICT Portal' at www.girlsinict.org, which features over 500 programmes such as scholarships, including over 100 scholarship opportunities, some 70 contests and awards, more than 100 training and internship opportunities, over 100 online networks offering career support and mentoring, as well as tech camps and online networks.

ITU launched and organizes the annual International 'Girls in ICT Day', first celebrated on 28 April 2011. This year saw over 1,500 events organized in more than 120 countries around the world. Over 40,000 girls and young women took part in the celebrations of International Girls in ICT Day, on 25 April 2013, including a special day of hearings at the European Parliament. International Girls' in ICT Day is an initiative backed by ITU Member States in ITU Plenipotentiary Resolution 70 (Guadalajara, 2010) to create a global environment that empowers and encourages girls and young women to consider careers in the growing field of information and communication technologies (ICTs). International Girls in ICT Day is celebrated on the 4th Thursday in April every year. These are events

where girls - elementary school, high school and university students, are invited to spend the day at the office of ICT companies and government agencies so they better understand the opportunities the ICT sector holds for their future. Ministries of ICT, Education, Labor, Youth, National ICT Regulatory Authorities, ICT companies, academic institutions, relevant UN agencies, NGOs and other stakeholders are encouraged to organize Girls in ICT Day events in their countries. The ITU Secretary General invites all ITU Member States and Sector Members to organize events attracting as many girls and young women as possible.

With Information and Communication Technologies representing the world's single biggest growth engine ever, with no area of life remaining untouched by ICT, and the ever-increasing number of jobs needing ICT skills, the industry needs to include women and girls into the talent pool it relies on. 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"**, 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)** 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 ICTs⁶⁵.

⁶⁵ ITU Plenipotentiary Resolution 70 (Guadalajara, 2010), available at: www.itu.int/ITU-D/sis/Gender/Documents/Resolution_70_2010.pdf

III.3. 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 have been 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, innovation systems and governance.

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'Oréal-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 in mainstreaming 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 UNESCO headquarters. In collaboration with UN Women and other partners, UNESCO organized 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.



II.4. The Work of UN Women

UN Women is the UN organization dedicated to gender equality and the empowerment of women. UN Women – and its former constituent parts – has been actively engaged in promoting gender and ICTD work since the 1990s, both in programming and global advocacy. UN Women is strengthening efforts to increase focus and investment in critical aspects of ICTs for women’s empowerment and gender equality. The approach of UN Women is dual: mainstreaming the gender dimension in ICTD; and better integrating ICTD and broader knowledge society issues into the gender community through policy and advocacy, programming, UN Coordination, inter-governmental work and strategic partnerships. Both the promise and the risks of ICTs must be addressed. The benefits of ICTs for women must be maximized, focusing on the imperatives around gender equality and women’s empowerment and how these intersect with ICTs and the broader knowledge society.

UN Women has adopted a framework targeting six components: Strategies and Policies which integrate gender; Access which is affordable, high quality safe and convenient for women; Capacities of women to use technology, navigate services, consume and develop content and engage in channels for participation; Content & Applications development that meets women’s specific needs; Production and Decision-Making within ICT sector with women playing high level roles; Economic and Socio-Cultural Issues including combating stereotypes about women’s abilities to use and develop technology, as well as recognize and address other gender barriers (e.g. access to resources) that bar women from full participation in society, and as a result, the information society.

Global Advocacy, Normative Framework Development and Partnerships

World Summit on the Information Society: UN Women was a leader of the gender caucus during the 2003 and 2005 Summit events and actively champions gender issues within the review process, including holding three side events and one high-level panel with partners on gender issues in the Paris and Geneva 2013 WSIS meetings.

Commission on the Status of Women (CSW): The CSW, the key inter-governmental instrument for addressing gender equality and supported by UN Women, considered gender and ICTD as the focus of its 2003 session producing dialogue, recommendations, research and awareness around these issues. In 2011,

CSW focused on science, technology and education. In 2014 and 2015, as the CSW reviews the MDGs, the Beijing Platform for Action and looks toward the post-2015 agenda, UN Women will actively integrate ICTs looking forward but also reviewing progress made to date in this area.

Women, ICT and Development (WICTAD)

Coalition: In 2013, UN Women in partnership with the US State Department, held a global forum on gender and ICTD issues with around 100 participants from different stakeholders and around six workstreams led by different partners, which addressed the current landscape on gender and ICTs, and actions for the post 2015 United Nations development agenda.

UN Partnerships and Working Groups: UN Women participates in various global initiatives on the gender dimensions of ICTs, including the UN Group on the Information Society, the Broadband Commission Gender Working Group, the Open Working Group on Sustainable Development Goals and the Inter-Agency Network on Gender Equality.

Private Sector Partnerships: UN Women has established a number of partnerships with the private sector including Microsoft (e.g. the Women’s Empowerment Award for Imagine Cup and support to the development of a technology pillar within the global Safe Cities programme) and with the ITU on the implementation of the Women’s Empowerment Principles within the technology sector.

Examples of ICT Applications and work within UN Women’s Core Focus Areas

Ending Violence Against Women (EVAW): “Safe Scaping”, or the mapping of unsafe public spaces with GIS technology by adolescent girls in Guatemala and Brazil :: Employment of Harassmap in Egypt to map incidences of sexual assault :: Service outreach through mobile technology to 14 thousand traditionally excluded women in Tajikistan :: Use of smartphones in Brazil to connect victims of violence to networks and for outreach to minorities and ethnic groups on their rights :: Use of software to keep and share records of domestic violence in Eastern Europe :: MediCapt, a mobile technology to collect and transmit forensic evidence in VAW crimes :: Development of an award-winning app game on EVAW in South Africa :: Provision of mobile phones and apps in Rwanda Peace huts to report and monitor police response to incidences of violence :: Crowdsourcing actions on EVAW through the UNITE campaign.

Political Participation, Governance, and National Planning and Budgeting: Organization of a broad based online consultation on gender in the new constitution in Nigeria :: Institution of monitoring and data systems in Nepal to assist with national planning and budgeting :: “Get to know your woman candidate” through online campaigns in Papua New Guinea (PNG) :: iKnow politics which has promoted the sharing of experiences and resources on how use of social media and ICTs has improved constituency building and been instrumental in women getting elected :: Use of e-government platform for coordinated service provision including for use of statistics in policy making process and for monitoring in Central Asian countries :: National ID cards and database for women in Pakistan to facilitate voters list and service delivery :: Use of ICTs to serve the election process in Jordan.

Economic Empowerment: “Homenet”, a network for women informal workers in the Philippines :: Safe markets - financial services and electronic payments through mobile technology in markets in PNG which reduces corruption, improves women’s safety and due to success is being replicated in three other major markets :: ICT Centre in Afghanistan to enable women’s economic participation through training in ICT skills.

National Level Capacity Development and Leadership for ICTs: Capacity Building for National Women’s Machineries on ICTD issues, in conjunction with APC, which increased awareness and capacities for these critical machineries to be conversant in, influence and employ ICTs :: With APC, development of the Gender Evaluation Methodology :: Achieving e-Quality programme in Jordan to increase the number of women in the ICT sector :: Cisco Networking Academies in Jordan, Lebanon and Morocco for ICT skill development for women which led to significant employment opportunities as a result :: Digital Literacy initiatives including for rural women in Guatemala and Ecuador, for girls in the Dominican republic and on social networking in the Caribbean.

Knowledge Hub on Gender Equality and Women’s Empowerment: One of UN Women’s core mandates is to serve as a knowledge hub on gender equality and women’s empowerment. UN Women has several such initiatives including: the Virtual Knowledge Centre on Ending Violence Against Women; the Knowledge Gateway for Women’s Economic Empowerment; iKnow Politics, a global knowledge network of women politicians :: WomenWatch which shares gender resources and news from the UN system :: Examples also exist at the national level, such as the Virtual Knowledge Centre for Ending Violence Against Women in India.



II.5. 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 support⁶⁶.

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% 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 alone⁶⁷.

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*⁶⁸. 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*⁶⁹ presents gender-disaggregated data for over 200 economies in an easy country-by-country reference on demography, education, health, labor force, political participation and the MDGs.

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 IDA⁷⁰ and works to reverse 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 – 2010⁷¹.

*infoDev*⁷² 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.

II.6. The Work of the GSMA

GSMA raised the profile of the issue female access to ICTs significantly with the publication of its groundbreaking report on the subject, *Women and Mobile: A Global Opportunity* (GSMA/Cherie Blair Foundation for Women, 2011⁷³). 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 2013⁷⁴. Annex Box 3 describes the work of the GSMA mWomen Programme, which currently is part of a Global Development Alliance in partnership with the U.S. Agency for International Development (USAID), the Australian Agency for International Development (AusAID) and Visa Inc.

Annex Box 1: GSMA mWomen Programme for Increasing Access

The *GSMA mWomen Programme* aims to increase the value women in low- and middle-income countries derive using mobile phones. 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 landlines⁷⁵. The GSMA believes that women in low- and middle-income settings have greater interest in investing in mobile phones when the phones feature services that meet 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 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 do not fulfill 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.

Partnership to increase women's access and use at a global scale

GSMA works 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 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.

⁶⁶ www.worldbank.org/en/topic/gender/overview

⁶⁷ www.worldbank.org/en/topic/gender/projects

⁶⁸ World Bank World Development Report 2012.

⁶⁹ openknowledge.worldbank.org/bitstream/handle/10986/13206/9780821398203.pdf?sequence=1

⁷⁰ www.worldbank.org/ida/ida_abcs_gender.html

⁷¹ www.worldbank.org/ida/theme-gender.html

⁷² www.infodev.org/gender

⁷³ www.gsma.com/mobilefordevelopment/wp-content/uploads/2013/01/GSMA_Women_and_Mobile-A_Global_Opportunity.pdf

⁷⁴ ITU ICT Facts and Figures, 2013.

⁷⁵ GSMA *Women and Mobile: A Global Opportunity* study.

II.7. The Work of the Private Sector

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 Annex Box 2. 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. Annex Box 3 describes some of Intel's work.

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 disadvan-

tagged youth, with an emphasis on girls and women⁷⁶. The programme 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. Annex Box 4 describes the work of Alcatel Lucent in this field.

Annex Box 2: Cisco's Networking Academies

To help build the skills that women need in technology, Cisco helps train hundreds of thousands of women through the Cisco Networking Academy programme⁷⁷, 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 programme, 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 vocational training centres 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.

The Networking Academies strive 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 skills⁷⁸. 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 which aims to bring more female university students into the ICT field⁷⁹. In Saudi Arabia, the Cisco Academy at Effat University is the leading non-profit higher education institution for women and has grown to 5 women's universities in Saudi Arabia⁸⁰.

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, Vellore, and Amity University, Noida, to train 35 rural women and 40 young female students on networking basics, booking train travel online, 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 course⁸¹.

Source: Monique Morrow, CTO Cisco Services, Cisco Systems.

Annex Box 3: Digital Literacy as a Tool for Bridging the Gender and Technology Gap

There are several factors which act as barriers to women's access to and use of ICTs. Intel (2013) showed that of the women in their study who were not using the Internet, 23% remain unaware of the Internet or how it might benefit their lives, even in urban areas where Internet access is often more affordable. Additionally, lack of technological ability is a barrier, since many women do not develop skills to harness the potential of the Internet to improve their lives. Digital and information literacy programmes are critical to addressing the challenges of awareness, familiarity, and ability to use the Internet. To address these barriers, Intel, in collaboration with NGO partners, have focused programs that aim to teach digital literacy skills to girls and women.

In the Intel® Easy Steps programme, women learn the basics of computer use, including word processing, spreadsheets, Internet, and e-mail. The Intel® Learn program is a basic technology literacy education programme that teaches youth the skills they need to succeed in the knowledge-based economy, with a focus on technology literacy, problem-solving, critical thinking, and teamwork. It has trained approximately 875,000 girls and young women with little or no computer experience in 16 countries in digital literacy skills. An ICRW study of the Intel® Learn program found that it has enhanced their technology skills, critical thinking, and self-confidence, improving their capacities as students, community members, and businesswomen. In most of the Intel Learn countries, girls' self-confidence and sense of power increased. Girls also improved their ability to use technologies to communicate, collect, share and organize information and to collaborate. Important lessons emerged on how to enrich the lives of girls and women through technology education and digital literacy:

- **Make training relevant:** With Intel Learn, women and girls are able to apply technology to address needs or problems in their own lives and communities, which keeps them interested and enhances learning.
- **Cultivate entrepreneurialism:** Women and girls have greatly benefitted from Intel's approach of using technology to foster entrepreneurship and financial management skills.
- **Give girls a voice:** When girls present solutions to their communities, both they and their communities realize that they have something to contribute and can be powerful agents of change.
- **Ensure girls' participation:** Attracting girls and women to technology programmes can be challenging. Intel uses techniques, such as partnering with government schools that serve at-risk girls or holding girl-only sessions, to recruit girls and women, as well as to ensure that they are comfortable participating.

Source: Dr. Renee Wittemyer, Intel Corporation.

⁷⁶ www2.alcatel-lucent.com/foundation/connected/index.html#sthash.nnzTxDnh.dpuf

⁷⁷ www.cisco.com/web/learning/netacad/index.html

⁷⁸ csr.cisco.com/casestudy/networking-academy

⁷⁹ www.internationalwomensday.com/article.asp?m=4&e=31#.Ud8W3z6G1E1

⁸⁰ csr.cisco.com/casestudy/impact-saudi-arabia

⁸¹ sparkforwomen.org/

Annex Box 4: 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 Alcatel-Lucent's 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 addresses 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 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.



Annex Box 5: Increasing Secondary Education for Girls in Developing Countries

Education is a powerful tool to end poverty and secure a productive life. Ericsson is focused on improving the quality of education for male and female students through the transformative power of ICT. Ensuring equal access to a quality education for girls is particularly relevant in regions such as sub-Saharan Africa, where up to 70% of girls in some countries region never get a secondary education. According to UNESCO, one extra year of schooling increases an individual's earnings by up to 10%. Many countries in sub-Saharan Africa have boosted primary enrollment rates in the recent decade, but much more work is still to be done in achieving educational quality and equity in the region. Secondary schooling remains an urgent challenge. Low transition rates from primary to secondary school, and low completion rates indicate that adolescents in the region, and particularly girls, are not acquiring the skills they need to be economically successful and civically active. For many schools, their only viable connection to the Internet and a 21st century education is via mobile broadband. Mobile broadband can have a transformational role in scaling up access to quality education through innovative programmes, such as cloud based curricula and school-to-school connectivity.

In 2010, Ericsson partnered with The Earth Institute and Millennium Promise to establish Connect To Learn (CTL). In 2012, the program was up and running in twelve schools in Millennium Villages in six countries: Ghana, Tanzania, Kenya, Uganda, Malawi and Senegal. During 2013, Ericsson has continued to expand CTL's ICT programme in the Millennium Villages. CTL aims to ensure that all young people worldwide have complete and compulsory access to a 21st century quality education through the strategic implementation of information communication technologies in schools. CTL targets underserved segments according to gender, with a specific focus on girls, as well as on location, with a focus on serving underdeveloped, rural areas. CTL harnesses the transformative solutions of the mobile industry to the global issue of education by building powerful PPs. CTL's ICT solution increases access to technology by focusing on schools that want and need Internet and computers and providing access to a 21st century education in a consistent, robust and efficient manner. The aim is to maximize user experience, without involving end-users too heavily in the technology cycle itself.

Building on the success of CTL in Africa, new ICT programmes were started in schools in Djibouti, Brazil, Chile, South Sudan, Uganda, India and China. Ericsson is working with the government of Guandong and China Mobile to bring cloud computing-based learning to schools in that region. By mid-2013, over 17,000 students were benefitting from Ericsson's education programmes globally, more than three times the number in 2011.

Source: Ericsson.

II.8. The Work of Civil Society

There are many civil society players engaged in efforts to combat information poverty and overcome ICT gender gaps. This Section describes the work of the Association for Progressive Communications (APC) as one example of the work of a civil society player.

Info-ladies gain success in Bangladesh (<http://dnet.org.bd>)

D.Net, Bangladesh, won a seedgrant award from the Global Knowledge Partnership (GKP) under its competitive Seedgrant and Small Innovative Projects Fund in 2004 to experiment with increasing access to information and knowledge through the use of mobile phones. The mobile phone was considered most appropriate, as mobile enjoys a much higher penetration in Bangladesh compared to fixed telephone lines, estimated at 95% coverage. Mobile phones were also considerably cheaper to use compared to making calls through landlines. D.Net then adopted a gender perspective and decided to not only deploy the most appropriate ICT, given existing infrastructure and costs, but to also ensure that a whole integrated system of information and knowledge was made available to the poor for their access. Hence, the mobile ladies were hired, trained and equipped with mobile phones, which were used to connect the rural users with:

1. a help-desk, and a chance to speak with the experts (lawyers, agricultural specialists, veterinary doctors, education specialists) sitting at the help desk located at D.Net—to be able to get counseling on various livelihood issues;
2. a searchable knowledge database in the local Bangla language (the search engine is also in the local Bangla language);
3. a directory database with information of different service providers; and
4. a referral system which included access to local, national or international organizations.

All of these different options had differential pricing schemes. Responses and requests through e-mail or by letter were services provided free of cost. Both the knowledge and directory database are updated regularly in order to ensure that the latest information can be provided to information-seekers.

By introducing the mobile operator ladies, D.Net recognized that women were more marginalized than men and suffer greater from lack of access to infor-

mation and knowledge and from lack of opportunities compared to men. D.Net's first step of introducing only mobile operator ladies, has helped address to some extent the most common obstacles that restricted women's growth and access to knowledge (including financial and religious constraints, superstitions and myths, and mind-sets roots in ancient practices).

This project has won various international awards: the APC Gender and ICT Award (2005); the Manthan South Asia Award (2011) and the The Bobs: Social Media Forum Award 2013, and also a finalist in the Stockholm Challenge Award in 2010.

Internet solutions to crop diseases IFDAP, Democratic Republic of Congo (DRC)

In the border region of Uvira, women's cassava root crops were being destroyed by pests. In order to help the women of this community increase their healthy crop production and agricultural knowledge, IFDAP trained them on Internet research so they could learn about the diseases affecting their crops. IFDAP also provided the women with mobile phones in order for them to contact potential buyers and trained 48 women and eighteen men from nine different women's groups in the area on the use of technology. A weekly radio show ("The Voice of the Woman Farmer") was also created, on which topics related to gender and agriculture were addressed.

As a result of their new knowledge and access to technology, the rural women of Uvira were able to increase their crop production and family income, hence improving education for their children and better nutrition for themselves and their families. While the new economic power of women was met with resistance and jealousy from some men, other men have embraced the changes and now also participate in running the household. Through this initiative, the women of Uvira have gained more respect from their families and communities.

Better fish conservation techniques lead to more business (www.aquaded-ong.org)

In Benin's rural fishing areas, women are the ones who purchase fish after it has been caught and turn it into various food products. AquaDeD has worked with poor rural women using ICTs to train them in an effort to help increase their incomes and improve their livelihoods. By using basic ICTs like video, television and mobile phones, the women were able to learn new conservation techniques (such as smoking the fish)

and to use mobile phones to increase their market, expanding as far as the neighbouring countries of Togo and Nigeria.

Since the women have been able to access these new technologies, their quality of life has improved dramatically. They can now contact buyers without waiting for buyers to come to them. They can purchase medicine and food and pay school fees for their children without having to wait for their husbands to give them the money. With children on their backs while they work on computers, their desire to learn is strong – and life at home has also improved as a result: women are now contributing to household finances, which this has encouraged men to get more involved in domestic chores and child care.

Dominican women farmers better run their cooperatives using ICTs
Fundación Taigüey, Dominican Republic

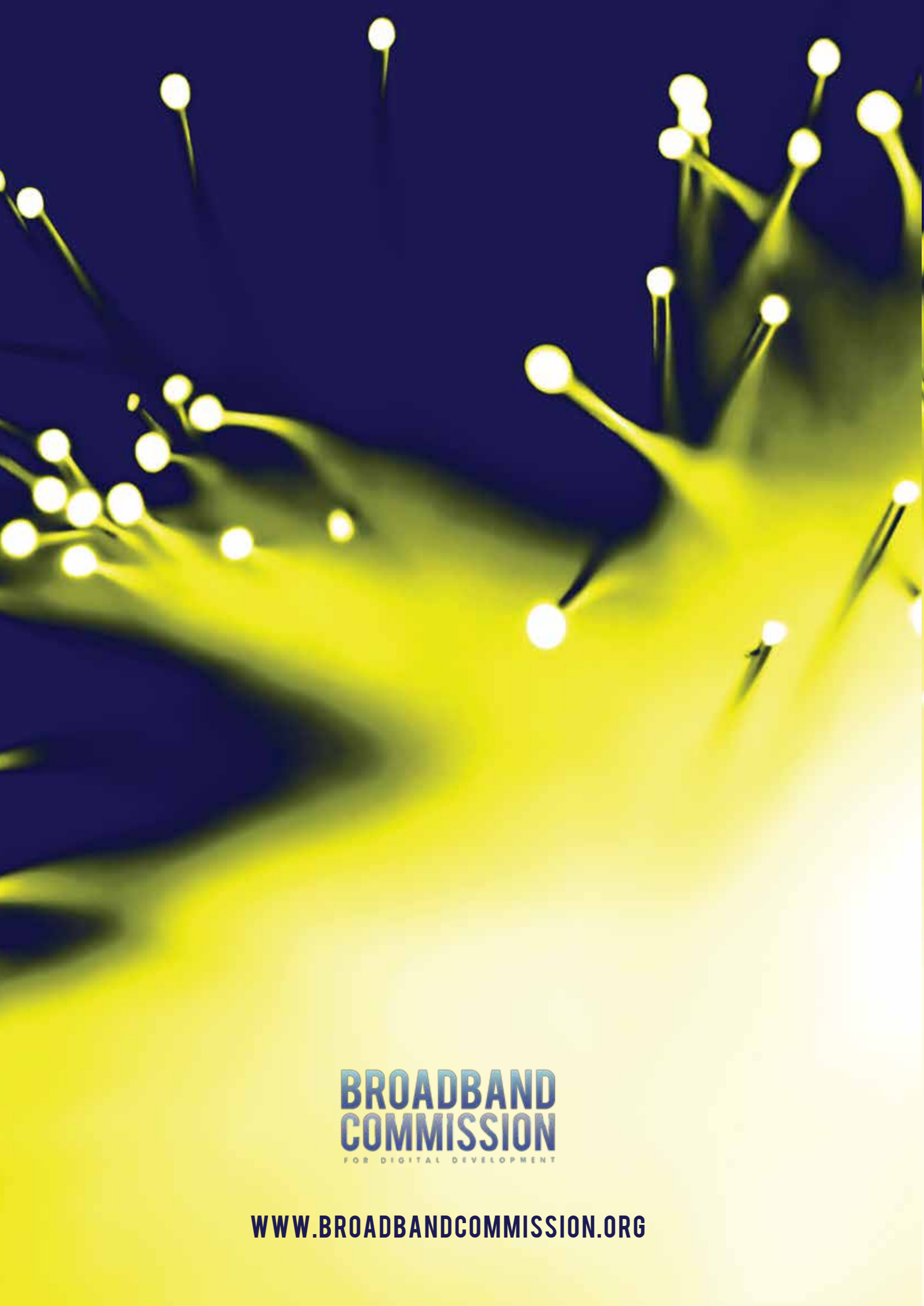
La Ciénaga is a small village in the Dominican Republic where 75% of the inhabitants live under the poverty line. With the support of Fundación Taigüey, women got together and set up an agro-processing cooperative. GenARDIS funded the ICT component of this initiative, which aimed to help them manage their cooperative.

Sixteen women from the cooperative board received training on tools relevant for running the cooperative. Many were 50 years old, which means “old” and “good for nothing” by Dominican rural standards. Most of them had not finished primary school, so Taigüey staff decided to go to the basics: they taught them maths so they could understand the logic of tools such as spreadsheets. Thanks to the ICT component, most of the women are not afraid of computers any more.



LIST OF ACRONYMS AND ABBREVIATIONS

CSO	Civil Society Organization
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
NSO	National Statistical Office
PPP	Public-Private Partnership
STEM	Science, Technology, Engineering & Mathematics
STI	Science, Technology and Innovation
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific & Cultural Organization
USF	Universal Service Funds
WSIS	World Summit on the Information Society



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