

# Integrating Gender Perspectives into African Innovation Research

By Jeremy de Beer, Katie Degendorfer, Meika Ellis, and Alyssa Gaffen



Photo by Gordon Adomdza.

## About the Authors

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## Gender Equality 101

Gender inequality remains the reality in every country. Women and girls are often marginalized from social, economic, and political processes—in developed and developing countries alike—although each woman in each country experiences marginalization differently. Including and targeting women and girls in development greatly increases the likelihood of an initiative's success.

Gender equality and the empowerment of women and girls is expressly stated as United Nations Sustainable Development Goal No. 5. The Open AIR network, therefore, is helping researchers put gender concerns at the forefront of every stage in their projects, from planning to implementation. We believe, and studies have shown, that gender awareness contributes to more effective research and development outcomes.

In this briefing note, we introduce gender-infused perspectives on the topics of science, technology, innovation, information communications, and intellectual property. We identify issues and trends, and introduce further readings.

## GENDER AND STEM

Although the number of women in science, technology, engineering, and math (STEM) is growing, inequalities remain at every stage of the academic and career process: from applications, to admissions, to treatment in the classroom, to job prospects, to treatment in the workplace. Many inequalities are latent, camouflaged by the idea that academic and workplace policies are “gender neutral”.

If people believe that gender inequality is beyond their control, they will likely not question whether policies cater to men's preferences and/or negatively affect women. One example of such policies is a work-from-home policy for all employees that often encourages women to do double duty—taking on paid and unpaid work at home.

Policies like these tend to be “gender ameliorative” and improve women's circumstances quantitatively, rather than qualitatively. A further example is a program to recruit women into STEM that does not provide them with mentorship or integrate their ideas into academia or the work force.

## About Open AIR

Open AIR is a unique collaborative network of researchers spread across 15 African countries, Canada, and elsewhere in the world answering two overarching questions:

- 1) How can open collaborative innovation help businesses scale up and seize the new opportunities of a global knowledge economy?
- 2) Which knowledge governance policies will best ensure that the social and economic benefits of innovation are shared inclusively?

To answer these questions, we conduct case studies on high technology hubs, informal sector entrepreneurship, indigenous entrepreneurs, and performance metrics and management practices.

Our researchers come from many disciplines, including law, economics, management, political science, and public policy. Open AIR is a partnership involving five leading universities—the University of Ottawa in Canada, the University of Cape Town in South Africa, Strathmore University in Kenya, the Nigerian Institute for Advanced Legal Studies, and the American University in Cairo, Egypt.

For more information, please visit us at:

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## GENDER AND ICT

A “digital divide” remains between men and women, regarding their access to and use of information and communication technology (ICT). The myth remains pervasive that women do not like, and are less capable of using technology. Such an assumption rarely takes into account the systemic barriers that prevent women from developing ICT skills. Barriers include a lack of access to a home computer, an inability to frequent computer labs, domestic responsibilities that fall to women more than men, and more.

However, women that overcome these challenges are benefitting from the expressive freedom that ICT provides. And yet, the Internet and other ICTs also expose women to harassment of all kinds. The relationship between gender, ICT, and development is therefore complicated and requires research that takes into account the difference between male- and female-lived experiences. This research should also consider the potential for empowerment, the risk of false information, and the importance of women’s agency.

## GENDER AND ENTREPRENEURSHIP

Women continue to be seen as less innovative or less entrepreneurial than their male counterparts in schools and in the work force. This stereotype influences and is influenced by disparities in the industries where women entrepreneurs start their business (Marques 2017); the degree of success that women entrepreneurs enjoy (Marvel, Lee, & Wolfe 2015); the amount of investor confidence women enjoy (Thébaud 2015); and how success is measured to begin with (Keisu, Abrahamsson & Rönnblom 2015; Melo-Martín 2013).



*Photo by Gordon Adomdza.*

## GENDER AND IP

Although seemingly gender-neutral, the internationally accepted IP regime is systemically male-oriented. First and foremost, the number of women who hold IP rights is significantly less than men. However, systemic barriers often stand in the way of women’s success, rather than their own passions or capacities.

Male-dominated fields like creative writing or mechanical engineering are easily ascribed concepts like “authorship” and “invention”. Meanwhile traditionally female trades—e.g. recipes and fashion designs—are seen as reproductive rather than productive and are often excluded from IP protection (Bartow 2006).

Inequality compounds when we measure success by quantifying IPRs; i.e. we disadvantage women that cannot outperform men in measurements that typically capture men’s performance (Melo-Martín 2013; Mauleo, Daraio, & Bordons 2013). Without acknowledging and appropriately integrating gender into the IP realm, women will continue to be disempowered and absent.

## Concrete Next Steps

Open AIR is integrating gendered perspectives into our research through partners and affiliated researchers and in the overall approach we take towards research. At a high level, we want to empower women by giving them agency. Empowerment, is “a process aimed at changing the nature and direction of systemic forces that marginalize women and other disadvantaged sectors in a given

context,” (Buskens & Primo 2010). And, agency means that women and men “participate actively in bringing about social change and gender equality,” (Buskens & Primo 2010; Thas & Ramilo 2011).

There is no one-right way to integrate gendered perspectives into research. Below, we recommend a non-exhaustive list of action items that can help us achieve this shared goal.

<b>Question the “gender neutral” or “gender ameliorative”</b>	<ul style="list-style-type: none"> <li>• Challenge policies and metrics that appear to give equal opportunities to men and women, but do not consider the unique experiences of all people; these policies and metrics likely disproportionately advantage the male perspective and disadvantage the female perspective.</li> </ul>
<b>Include research participants in the planning and implementation of your research</b>	<ul style="list-style-type: none"> <li>• Integrate viewpoints from the community where your research takes place to increase your impact and flag inequalities that your research perpetuates or challenges.</li> <li>• Ensure that samples accurately represent the diversity of the population and include marginalized and/or vulnerable groups.</li> <li>• Create a “safe space” for research participants where marginalized individuals feel comfortable sharing their thoughts and opinions.</li> <li>• For example:             <ul style="list-style-type: none"> <li>○ acknowledge and respect participants that hold gender unequal values;</li> <li>○ consider implementing a collectively agreed upon code of behaviour;</li> <li>○ remind participants of the diversity of life experiences; and</li> <li>○ allow participants to ask questions or voice concerns.</li> </ul> </li> </ul>
<b>Self-reflect on your values as a researcher</b>	<ul style="list-style-type: none"> <li>• Use personal experience to make meaningful connections with research participants.</li> <li>• Remain mindful of your world-views, especially regarding gender roles, that may align or diverge from that of participants. Then, take care not to judge yourself or your participants harshly.</li> <li>• Self-reflect at many stages of the process to acknowledge whether you hold values that perpetuate gender inequality—directly or indirectly.</li> </ul>
<b>Negotiate between gender equality and cultural norms for sustainable change</b>	<ul style="list-style-type: none"> <li>• Acknowledge that gender roles are often deeply ingrained into a person’s culture, values, or religion. In many cases, challenging these beliefs will invoke a strong defensive response.</li> <li>• Accept that delicate issues often call for diplomacy and negotiation to breed sustainable understanding, rather than antagonism. (Buskens &amp; Webb, 2014).</li> </ul>
<b>Plan to operate in a post-sexist reality and adjust accordingly</b>	<ul style="list-style-type: none"> <li>• Imagine how your project would play out if the public understood “the ways in which women’s and men’s social roles may differ, and how social programmes may have different consequences for men and women in society.”</li> <li>• Start to think outside the gender binary and imagine if all people, regardless of their gender identity, could exercise their agency.</li> <li>• Capture gender-disaggregated data that can help articulate the different circumstances of men and women and adapt policies to those circumstances (if they are needs based) or challenge those circumstances (if they are barriers).</li> </ul>

## Conclusion

By being conscious of gender inequality, challenging these disparities, and encouraging the inclusion of all people, Open AIR can contribute to human, economic and political development wherever our researchers are located. The examples above demonstrate that women in a variety of STEM and STI fields face blatant as well as latent discrimination.

Systems made to value men over women (while masquerading as “gender neutral”) tend to perpetuate this inequality. Every woman faces unique challenges, and we acknowledge that this summary cannot substitute for a thorough, intersectional analysis of gendered issues. However, understanding the trends of inequality helps Open AIR keep gender top-of-mind and to integrate this perspective into our research.

## References & Readings

***Gender and ICTs: Annotated Bibliography*** (London: UKAID, BRIDGE, 2014)

- Lists and summarizes relevant and recent literature on gender, ICT, and violence against women

**Bartow, Ann, “Fair Use and the Fairer Sex”** (2006) 14:3 J Gender Soc Pol’y & L 551.

- Explains the gender issues associated with IP, especially copyright

**Buskens, Ineke & Anne Webb, eds, *African Women and ICTs: Investigating Technology, Gender and Empowerment*** (London: Zed Books, 2009).

- Explores in-depth how gender affects and is affected by ICTs in Africa
- See especially chapters 1, 7, 8, 13, 15, and 16

**Buskens, Ineke & Anne Webb, eds, *Women and ICT in Africa and the Middle East: Changing Selves, Changing Societies*** (London: Zed Books, 2014).

- Explores unique issues surrounding gender and ICTs in African and Middle Eastern countries and offers insight into research in these fields
- See especially chapters 1, 2, 8, 10, 16, 21, and 22

**Buskens, Ineke & Natasha Primo, *Integrating Gender Awareness in ICT4D*** (Grabouw, South Africa: IDRC, 2010).

- Explains the core concepts of gender, innovation, and Information Communication and Technology for Development (ICT4D)
- Recommends concrete strategies to integrate a gendered perspective into research and policymaking in areas of IP and ICT

**Brouwers, Ria, “Revisiting Gender Mainstreaming in International Development: Goodbye to an Illusionary Strategy”** (2013) IDRC Working Paper No 556.

- Documents and compares evaluation studies and reviews of bilateral and multilateral donors

**de Melo-Martín, Inmaculada, “Patenting and the Gender Gap: Should Women Be Encouraged to Patent More?”** (2013) 19:2 Sci & Engineering Ethics 49.

- Discusses the gender gap in patenting, challenges quantity of patenting as an accurate measure of productivity, and notes problematic aspects of the Bayh-Dole Act.

**Gurumurthy, Anita & Nandini Chami, *Gender equality in the information society - a review of current literature and recommendations for policy and practice.*** (London: UKAID, BRIDGE, 2014).

- Surveys concerns associated with gender and ICT use in developing countries

**Hilbert, Martin, "Digital gender divide or technologically empowered women in developing countries? A typical case of lies, damned lies, and statistics"** (2011) 34:6 Women's Studies Int'l Forum 479.

- Finds that being a woman negatively correlates to employment, income, and education opportunities, which negatively correlates to using ICTs. By contrast, opportunities for employment, income, and education positively correlate with ICTs.
- When controlled for these variables (i.e. when men and women had high education, income, employment) more women than men in developing countries used ICTs

**Keisu, Britt-Inger, Lena Abrahamsson, & Malin Rönnblom, "Entrepreneurship and Gender Equality in Academia – a Complex Combination in Practice"** (2015) 5:1 Nordic J Working Life Stud 69.

- Finds, *inter alia*, that many researchers were uneducated about gender theory and many participants overall thought solutions to gender inequality were about getting more women involved and therefore were outside of their immediate control

**Marvel, Matthew, In Hyeock (Ian) Lee & Marcus Wolfe, "Entrepreneur Gender and Firm Innovation Activity; A Multilevel Perspective"** (2015) 62:4 IEEE Transactions on Engineering Mgmt 558.

- Finds that "[d]ifferences among firm performance have often been attributed to founder gender but our results suggest that female entrepreneurs are equally as innovative as male entrepreneurs when equipped with comparable endowments"

**Marques, Helena, "Gender, entrepreneurship and development: which policies matter?"** (2017) 35:2 Dev Pol'y Rev 197.

- Asserts that women are constrained by education and resources from starting low-routine businesses, which tend to be self-funded in the beginning
- Government intervention and policies that support women in these respects increase the likelihood of women entrepreneurs succeeding in low-routine industries

**Mauleo, Elba, Cinzia Daraio & Maria Bordons, "Exploring gender differences in patenting in Spain"** (2013) 23 Research Evaluation 62.

- Notes substantial difference between women's and men's participation (number of patents filed with a woman inventor), contribution (number of female inventors out of all inventors), and presence across industries in patenting

**Parpart, Jane L, "Exploring the Transformative Potential of Gender Mainstreaming in International Development Institutions"** (2014) 26 J Intl Dev 382.

- Parpart explains the history of "gender mainstreaming" and how the development agenda has thus far failed to meaningfully integrate women

- She suggests how development agencies can more effectively integrate gender

**Primo, Natasha, *IDRC Acacia gender integration guide*** (Grabouw, Zambia: Research For the Future (RFF), 2009).

- Assesses how to effectively integrate more gender-aware research and project proposals

**Primo, Natasha, “Striving Towards Excellence in Development Practice: Integrating a Gender Perspective”** (30 November 2009) IDRC Working Paper.

- Explains “why you should integrate gender” and “insight into how the political process can impact on transformational ‘gender agenda.’”
- Sets out key steps in a gender analysis.

**Thas, Angela M Kuga & Ramilo, Chat Garcia, *Gender Analysis for ICT Localisation Initiatives*** (Melville, South Africa: Association for Progressive Communications (APC), 2011).

- Discusses the significance of gender and its effects on localisation initiatives, and suggests how to

promote a "learning for change" culture

**Thébaud, Sarah, “Status Beliefs and the Spirit of Capitalism: Accounting for Gender Biases in Entrepreneurship and Innovation”** (2015) 94 Soc Forces 61.

- Reports on focus group studies where university students rated two fictional entrepreneurs on their business plans using “investment points”. Different students presented with the same two fictional business proposals (one innovative and one not-innovative and with a randomly assigned gender)
- The non-innovative man received the most investment—his traditional business model was a “safe bet.” The innovative woman received the second highest investment—her innovation was desirably uncharacteristic of women and a good investment. The innovative man received the third highest investment—he is a risk-taker and not necessarily safe. And the non-innovative woman received the least investment—she is not competent or entrepreneurial enough to merit investment.

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