CSW 67 Gender and Technology Brief

The Intersection of Gender, Technology and Environment

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We are experiencing the beginnings of the Fourth Industrial Revolution. It merges the physical, digital, and biological worlds and infuses new technologies in ways that create both promise and peril.[1] At the same time, instability, inequality, and insecurity are escalating within the context of a rapidly melting planet.

Meanwhile, investments to increase stability, equality and security are relegated to a back seat. Heads of corporations and governments often do not listen to those who know most about the on-the-ground dangers made worse by the decisions of these same policy makers. Venture capitalists pour billions of dollars into technology, but most seem blind to the return on investment [ROI] that increasing stability, equality, and security could offer them because they cannot directly monetize it.

Women and girls make up the majority in the high-risk populations harmed by environmental disasters and dangers.[2] After disasters, women are often relegated to non-technical work in neighborhood recovery by local non-profit organizations having few resources. Diversification of management and boards and increases in the number of women employed in STEM fields is occurring, but progress is slow. Women are still significantly underrepresented in many of the environmental technologies that best address climate-related crises. However, when women *are* included in the problem solving and decision-making, the outcomes are measurably better.

Our 21st Century heroes are and will be those who not only care about our environmental crises but also have the technical expertise and backing to find solutions. Girls and women must be encouraged and supported to gain the technical environmental expertise needed so they can join the ranks of the policy makers and embrace this Fourth Industrial Revolution in ways that create a more inclusive global economy and heal our planet.

Fast Facts

- Globally only 35% of *students* in higher education in STEM fields are women, and only around 28% of women are part of the workforce in science and technology.[3]
- Women's *environment-related* workforce participation is below the 24-28% STEM field average; the rate is especially low for power generation (10%) and general engineering technologies (8%).[4]
- The STEM gender gap is projected to continue: the 2020 Programme for International Student Assessment Report shows that among students who score highly in the PISA tests, it is overwhelmingly boys who expect to work in science and engineering.[5]
- In China and Korea, approximately 1/3 of environmental inventions are developed by women; in the USA, Japan, and Germany, green invention participation rates are below 10% for women.[6]
- Women made up 33% of the authors working on the latest assessment report of the Intergovernmental Panel on Climate Change [IPCC]. This representation is a significant improvement compared to previous years; in 1990, women accounted for only 5% of IPCC authors.[7]
- According to the World Bank, water sector projects that included women were at least six times more effective than those that did not.[8]

- In countries with women at the helm, confirmed deaths from COVID-19 have been significantly lower, due in part to faster leadership response and a greater emphasis on social and environmental well-being.[9]

Recommendations

A) Technology offers much hope toward managing and mitigating the damage of climate disasters for populations of women & children. Increase all means of stabilization: natural resource management, disaster planning & monitoring, and communications.

B) Target funding for education and skill-building for women and girls in technical environmental fields. Encourage pre-teen girls to explore these career fields and envision themselves in them.

C) Create means to enable business/government/gender-informed NGO collaboration on environmental problem-solving. Link these nodes of organization, using technology to enhance collaboration and decision-making.

D) Strengthen the gender-environment-technology nexus by assessing environmental-technical policies through a gender lens, and gender equality policies through an environmental-technology lens.

Suggested Readings

Geneva Environment Network, *2022,* *Environment in Geneva; UPDATE: Gender and the Environment*

Organization for Economic Cooperation and Development, 2022, *Gender & Environmental Statistics;*

Empowering Women in the Transition Towards Green Growth in Greece

Women's Environment and Development Organization (WEDO) and Sierra Club, 2020, *Gender and Climate Change in the United States: A Reading of Existing Research,* *https://wrd.unwomen.org/explore/library/gender-and-climate-change-united-states-reading-existing-research*

UNWomen, 2016, *Gender Dimensions of Vulnerability to Climate Change in China,* https://www2.unwomen.org/-/media/field%20office%20eseasia/docs/publications/2016/12/deliverable%207-english.pdf?v=1&d=20161208T095438

World Economic Forum: Strategic Intelligence, 2022, *Technology and Inequality*, *Gender Inequality, Ethics & Identity, Human Rights Impacts of Technology, Future of the Environment, and Environmental Impact of Computing,* https://intelligence.weforum.org/topics/a1Gb0000000LHVfEAO

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[1] World Economic Forum: Strategic Intelligence, 2022, *Fourth Industrial Revolution,* https://intelligence.weforum.org/topics/a1Gb0000001RIhBEAW

[2] UN Women, 2022, *Explainer-How-Gender-Inequality-and Climate-Change-Are-Interconnected, Interconnections*

[3] UNESCO, *Cracking the code: Girl's and women's education in STEM,* https://studiouslyyours.com/womens-role-in-science-and-technology

[4] Organization for Economic Cooperation and Development, 2022, *Gender and Environmental Statistics, A. Technology development*, p. 3, https://www.oecd.org/environment/brochure-gender-and-environmental-statistics.pdf

[5] Geneva Environmental Network, 2022, *UPDATE: Gender and the Environment,* https://www.genevaenvironmentnetwork.org/resources/updates/gender-and-the-environment/#scroll-nav__7

[6] Organization for Economic Cooperation and Development, 2022, p. 5

[7] Geneva Environment Network, 2022, *Women in Environmental Science,*

[8] World Meteorological Organization, *2021 State of Climate Services – Water, p.16,* https://public.wmo.int/en/our-mandate/climate/state-of-climate-services-report

[9] World Economic Forum: Strategic Intelligence, 2022, *Political Gender Inequality,* https://intelligence.weforum.org/topics/a1Gb00000015Hi2EAE/key-issues/a1Gb0000001hYkeEAE