

Breaking the Stereotype: Supporting Malawi's Women and Girls for Careers in STEM and Sanitation



Gender equality advances sustainable development, strengthens human rights, and promotes economic growth and development. In Malawi, both the Constitution and the National Education Policy include strong commitments to increasing gender equality throughout society.^{1,2} Yet many Malawian girls drop out of school before completing secondary school or continuing to higher education.³ Among girls who continue their education, even fewer choose to study fields related to science, technology, engineering, and math (STEM).

As a result, many STEM professions in Malawi are dominated by men. This includes the scientific specialty of sanitation, which focuses on clean drinking water and treatment and disposal of waste. In contrast, sanitation and hygiene tasks in the home generally fall to women and girls. **Attracting more women to pursue higher education and careers in sanitation will help to increase culturally sensitive and gender-inclusive solutions for sanitation in Malawi, as well as advance gender equality overall.**

Women and Girls Face Barriers to Pursuing STEM and Sanitation Careers

Recent survey research among secondary school students, teachers, and school officials identified key barriers that can discourage girls from studying STEM or sanitation in university.⁴ Among these respondents:



75 percent perceived pressure from peers that girls should not study STEM.



71 percent saw limited access to female role models in STEM, reinforcing gender stereotypes that women don't belong in scientific fields.



70 percent saw social and cultural expectations as barriers to more women choosing careers in STEM. One of these expectations is that girls marry soon after high school rather than pursue a university degree.



51 percent thought that teachers' attitudes towards females influenced girls to not enroll in STEM subjects.

Some of these perceptions varied across the regions of Malawi, but the overall finding was clear: girls face a range of implicit messaging from their schools and communities that discourages them from pursuing scientific fields of study.

“I opted for sanitation because I wanted to be part of the qualified WASH [water, sanitation, and hygiene] personnel to help in giving out WASH interventions. Beyond secondary school it was not easy; fees were a problem, and being a girl it was not easy to convince people to fund my education because of the stereotype that science is not for girls. I plan to continue with my studies and do a Ph.D. I would like to be one of the girls who have gone far with their education and break the stereotypes.”

—Female student pursuing a master's degree in sanitation at Mzuzu University

Universities in Malawi Must Increase Female Enrollment in STEM and Sanitation Programs

The barriers that women and girls face in pursuing STEM in higher education mean that very few women are enrolled in these programs in Malawi's universities. The STEM specialty of sanitation is an example: although Malawi has an urgent need to grow its cadre of sanitation professionals to support sustainable development goals and deliver high-quality water and sanitation services throughout the country, there are very few academic sanitation programs in Malawi, and few women are enrolling in this area of study.⁵



As of July 2024, of the seven universities in Malawi that offer degree programs in STEM-related fields, **only two offer degree programs in sanitation** (Malawi University of Business and Applied Sciences and Mzuzu University).



In 2023, Mzuzu University graduated **fewer than 10 female students** from its Master's in Sanitation program.

Fostering Inclusion Begins With Community Leaders

Encouraging more women and girls to pursue their education in STEM starts in the community. Traditional and faith leaders, families, and primary and secondary school officials all have roles to play in helping girls see STEM careers like sanitation work as viable choices and in reducing barriers to their continuation and success in school. Supporting today's girls to study STEM will increase gender equality and strengthen Malawi's workforce in the growing fields of science and technology.

To grow the sanitation workforce and begin reducing the gender gap in sanitation professionals in Malawi, **universities need to expand programs in sanitation**, with special outreach to encourage female students to enroll.



Community Outreach Programs Welcome Girls Into Science

Mzuzu University launched an annual Girls' Science Day to give girls of all ages exposure to science and the important work that STEM specialties help advance in Malawi. In 2024, the community event welcomed more than 250 girls ages 6 to 12 into university classrooms to learn about subjects like clean water, infectious diseases, and sanitation services. By including female graduate students in STEM fields, Girls' Science Day offers role models for girls who may feel pressure not to pursue scientific studies or think that STEM is not a career path for women.

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