Advancing Design Equity in Uganda Schools

How prioritizing women in engineering leadership results in inclusive sanitation infrastructure

By Tetra Tech International Development

IN INFRASTRUCTURE & WOMEN'S EMPOWERMENT

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Imagine you are a 14-year-old girl in Uganda. You love school and dream of attending university one day. But each month, you miss a week of classes. The school's latrines are not separated by gender, often unkept, and do not offer a safe and private place to change and dispose of used pads—so you stay home. The more classes you miss, the more your chances of graduating (and dreams of university) fade away.

Often, predominately-male design and leadership teams might overlook the need for hygiene infrastructure designed specifically for women. Without women at the table, designs lack a full understanding of the user. As a leader in design and engineering, Tetra Tech prioritizes balanced teams with men and women on board to ensure we model and deliver equity to our clients.

In this story, we share how Diana Keesiga's experience as the Director of Engineering and Construction on the U.S. Agency for International Development Uganda Sanitation for Healthy Activity shows that women in engineering leadership roles are key to understanding the needs of underserved populations. Under Diana's leadership, Tetra Tech transformed basic latrines in Uganda into a gender-inclusive mechanism that keeps girls in school.

A Fresh Perspective

Before Diana's involvement, latrines were commonly designed without a dedicated way to dispose of menstrual pads. Diana also recognized the need for a more robust handwashing solution. Her design goal was to produce a low-cost, gender-inclusive latrine package that rural schools could easily operate and maintain. She considered how future users, particularly women and children, would interact with the facilities and paired cultural change with innovative design.

"In the past, I had been involved in the design and construction of facilities that I lived to see get vandalized, misused, and abandoned. Girls were throwing used pads in toilets, causing them to fill up fast, and plastic tanks for handwashing were developing legs and walking away from their bases overnight. These two

aspects needed improvement."

Diana's team constructed permanent ferrocement tanks in place of the plastic water tanks and attached incinerators to the girls' washrooms and painted proper hand washing practices on the exterior walls to encourage kids to use the facilities.

To ensure correct and consistent usage of these facilities, the team incorporated planning and budgeting for operations and maintenance (O&M) and trained district and school teams to assemble costed O&M plans.

"We help the school administrators and communities think through what it is going to cost to empty the latrine and to buy the consumables for cleaning the toilets, replenishing pads, and repairing the fast-wearing parts on these facilities. We divide that cost by the school enrollment. For all the calculations we have done, it doesn't go beyond half a dollar per child. Once they see how much money is there they say, 'Oh OK, that's not much. We can actually afford this.'"