

Effective, sustainable management of water and waste is essential for economic development and the protection of both human and environmental health. Population growth, urbanization, increased consumption and climate change make it increasingly difficult to ensure reliable water and sanitation service access. Never has it been more important to guide decision-making — from the individual to the global level — with credible, actionable evidence.

WE ARE

We are an interdisciplinary program of the Stanford Woods Institute for the Environment. Our community includes Stanford researchers from a broad range of disciplines, including engineering, medicine, public health, economics, planning and earth sciences. We also create strategic partnerships with universities, NGOs and governments within the regions we work.

OUR RESEARCH

Our researchers work to improve the health and well-being of communities across the globe by working toward evidence-based solutions to safe water access and sanitation services. Our work addresses issues such as water supply, water quality, sanitation, hygiene, wastewater re-use, health, energy, urbanization and food production.

Mission

Stanford's Program on Water, Health and Development (WHD) is working to improve the health and well-being of communities by creating the knowledge, skills and solutions needed to support effective management of water and wastes, and to ensure sustained, equitable access to water supply and sanitation services.

Goals

- Strengthening the scientific basis for decision-making in both the public and private sphere.
- Developing and testing technologies, policies and business models that address key challenges in the water and sanitation sectors.
- Enhancing public and private sector capacity for sustainable water and wastewater management.
- Partnering with other researchers, policymakers and practitioners to amplify the impact of our contributions.
- Providing unique training and learning opportunities for faculty and students at Stanford and partner institutions.





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Supporting sustainable and equitable development is at the core of our work.

Rural water infrastructure maintenance in Uganda

Much of the drinking water infrastructure built in rural Africa fails, wasting investment and forcing people to unsafe water sources. Partnering with EverFlow Africa enterprise in Uganda, we are testing a market-based preventive maintenance service designed to enhance sustainability of rural water infrastructure.

Removal of pathogens in urban stormwater runoff

Stormwater remains a frequent source of pollution to waterways. Our team is working to design a bioinfiltration system that removes pathogens in stormwater using molecular methods.

School-based Water, Sanitation and Hygiene Interventions

Healthy hygiene habits are easiest to establish during childhood. We are partnering with Sesame Workshop and World Vision International on their school-based WASH UP! program that targets children aged 6 to 10. In Zambia and India, we are quantifying the impacts of both the infrastructure and curricular components of the program on students, teachers and caregivers at home.

Urine-derived products

Urine contains the majority of nitrogen, phosphorus and potassium excreted by humans. We design processes to selectively extract these nutrients as fertilizers, disinfectants and commodity chemicals.

Sustainability of Water, Sanitation and Hygiene Services in Rural Healthcare Facilities in Uganda

The need for sustainable, clean water sources is being acutely felt in western Uganda as healthcare facilities are facing Ebola. Our team is working to enhance infection prevention through improved, sustainable access to water and sanitation services in healthcare facilities.

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