

Introduction

United International University (UIU) is committed to advancing Sustainable Development Goal 6 (SDG 6): Clean Water and Sanitation by promoting efficient water management, safe sanitation systems, and sustainable consumption practices on campus and beyond.

Throughout 2024, UIU strengthened its institutional systems for water conservation, wastewater treatment, pollution prevention, and sustainable extraction. The university has adopted environmentally responsible building standards, maintained green spaces with low water demand, and initiated steps toward water reuse and community-level cooperation. These initiatives reflect UIU's mission to contribute to a resilient, sustainable, and inclusive society through education, research, and operational excellence.

1. Water Consumption and Management

1.1. Measurement of Water Use

In the year 2024, total Water Consumption of UIU: Approximately 20 m³ per person per year.

Campus Population: 9,665 (students, faculty, and staff).

UIU partially measures its water usage through manual tracking of storage tank refills from its on-site deep tube well. This approach provides a reliable estimate of total annual consumption and supports monitoring for improved efficiency.

1.2. Wastewater Treatment System

UIU operates an onsite wastewater management system consisting of four septic tanks connected to four soak wells. All campus sewage is directed to the septic tanks for primary treatment, with effluent safely dispersed underground through soak wells.

Regular maintenance and desludging ensure hygiene and prevent environmental contamination. This decentralized system serves as an effective low-impact wastewater management solution, safeguarding groundwater quality.

1.3. Pollution Prevention Measures

To prevent polluted water from entering natural systems:

- Laboratories follow strict chemical handling protocols, ensuring proper labeling, neutralization, and dilution of waste before discharge.
- Sewage is fully contained within the septic and soak pit systems.
- These practices minimize accidental contamination risks and uphold environmental safety standards.

2. Safe Water Access and Campus Infrastructure

2.1. Free Access to Safe Drinking Water

UIU provides free and safe drinking water for students, staff, and visitors across all buildings. Each floor has two water purification stations, fitted with advanced purifiers and regularly maintained to ensure safe, continuous access. This initiative reduces single-use plastic consumption by encouraging the use of reusable water bottles and supports a culture of responsible consumption.

2.2. Water-Efficient Building Design

In compliance with the Bangladesh National Building Code (BNBC 2020), UIU incorporates water-efficient technologies such as dual-flush toilets (6/4 L per cycle) and low-flow faucets and showerheads. These measures reduce potable water use and reflect UIU's alignment with BNBC Part III, Chapter 4: Internal Water Management standards.

2.3. Sustainable Landscaping

UIU maintains green spaces planted with native, drought-tolerant species such as Krishnachura and Banyan trees. These plants require minimal irrigation, promote groundwater recharge, and provide extensive canopy cover that reduces surface evaporation. Routine mulching and maintenance further conserve soil moisture, making UIU's green landscape both sustainable and water-efficient.

3. Water Reuse and Recycling

UIU is in the process of developing a formal Water Reuse Policy.

In November 2024, the university signed an MoU with Kingsley Eco-Tech & Engineering (Australia) to design and implement greywater treatment and reuse systems for non-potable applications such as toilet flushing and landscape irrigation. This initiative will serve as a pilot model for a decentralized water recycling system on campus, advancing the university's long-term vision of achieving a circular water management framework.

4. Sustainable Extraction and Groundwater Recharge

UIU extracts water from a deep tube well, a method currently considered sustainable due to the campus's balanced land-use ratio: less than 25% built-up area and over 75% open green space. This land configuration allows for natural groundwater recharge during monsoon seasons, maintaining the aquifer balance. The university plans to integrate mechanical recharge systems in future infrastructure upgrades to further enhance sustainability.

5. Partnerships and Cooperation

UIU, through its Center for Smart Infrastructure Resilience and Sustainability (CSIRS), collaborates with local and national government agencies to strengthen water security.

Key initiatives include:

- The Kallyanpur Canal Plastic Reduction Project – combating water pollution in Dhaka's drainage systems.
- Citywide Inclusive Sanitation (CWIS) Framework Contributions – supporting equitable sanitation access.
- National Strategic Plan for Safely Managed Sanitation in Hard-to-Reach Areas – advancing sustainable sanitation in vulnerable communities.

These partnerships reinforce UIU's commitment to policy-level engagement and community-based solutions in achieving SDG 6.

6. Awareness and Promotion

UIU promotes responsible water usage through both infrastructure and awareness:

- Lever-type water faucets and dual-flush toilets encourage users to minimize wastage.
- Maintenance and visibility of water-efficient installations serve as educational tools for sustainability learning on campus.

Future plans include community awareness programs and integration of water sustainability topics in academic curricula.

7. Progress Toward SDG 6 Targets

SDG 6 Target

UIU 2024 Achievement

Status

6.1 – Ensure access to safe and affordable drinking water	Free purified water stations across campus	✓ Achieved
6.2 – Access to adequate and equitable sanitation	Onsite wastewater treatment (4 septic tanks + soak wells)	✓ Achieved
6.3 – Improve water quality and reduce pollution	Laboratory waste management and controlled disposal	✓ Achieved
6.4 – Increase water-use efficiency	Dual-flush toilets, low-flow fixtures	✓ Achieved
6.5 – Implement integrated water resources management	Collaboration with Kingsley Eco-Tech for reuse policy	🔄 In progress
6.6 – Protect water-related ecosystems	Native landscaping, recharge-enabled land use	✓ Achieved

Impact Summary

Environmental Impact: Reduced groundwater depletion and pollution prevention through efficient systems and native landscaping.

Institutional Impact: Established strong governance in water management through the Facilities and CSIRS teams.

Educational Impact: Enhanced sustainability literacy among students through campus design and water-conscious facilities.

Future Direction: Integration of greywater reuse systems and community education programs by 2025 to achieve full circular water management.

Conclusion

UIU's efforts toward SDG 6: Clean Water and Sanitation demonstrate a holistic approach combining infrastructure, awareness, and collaboration.

By aligning with UN sustainability standards, the university reinforces its role as a living laboratory for sustainable water management ensuring that clean water and sanitation remain accessible, efficient, and environmentally responsible for all.