6 CLEAN WATER AND SANITATION

Clean water, clear minds.

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Clean Water, Stronger Futures

PROMOTING SAFE WATER, BETTER SANITATION, SMARTER EDUCATION, AND SUSTAINABLE

'Sustainable water management begins with awareness, grows through responsibility, and succeeds through collective action'

Jamoliddin Kholtayev,
Head of the Sustainability Practices Office

In 2024, TSUULL continued implementing policies, campus-wide programs, and awareness initiatives that promote responsible water use, improved sanitation facilities, and environmental sustainability. TSUULL's work on SDG 6 directly supports national water-saving strategies and contributes to the ecological well-being of the broader Tashkent community. With that being mentioned, the university is committed to advancing **Sustainable Development Goal 6 (SDG 6)**: ***Ensure availability and sustainable management of water and sanitation for all.***

Governance and Policy Framework

TSUULL maintains a comprehensive governance structure designed to ensure responsible water management, high sanitation standards, and proactive environmental stewardship across all university facilities. These policies are reviewed annually and aligned with national regulations and international sustainability standards, including SDG 6. TSUULL's Water Management Policy provides the institutional foundation for efficient water use and conservation across all campus units.

TSUULL implements a comprehensive system for managing water use across its academic buildings, administrative offices, student dormitories, cultural centers, sports areas, and landscaped zones. The university promotes responsible consumption through posted guidelines, awareness campaigns, and regular user education, ensuring that students and staff understand the importance of conserving water resources.

High-use areas are equipped with water-flow regulation mechanisms to reduce unnecessary consumption and improve overall efficiency.

To ensure transparency and accuracy, the campus utilities department conducts annual water audits that help detect excessive usage and identify areas requiring infrastructure upgrades.

With the installation of smart meters in major buildings in 2024, facility managers now receive real-time consumption data, enabling faster decision-making and proactive intervention. Annual consumption reports are submitted to the Rector's Office and integrated into the university's sustainability performance reviews.

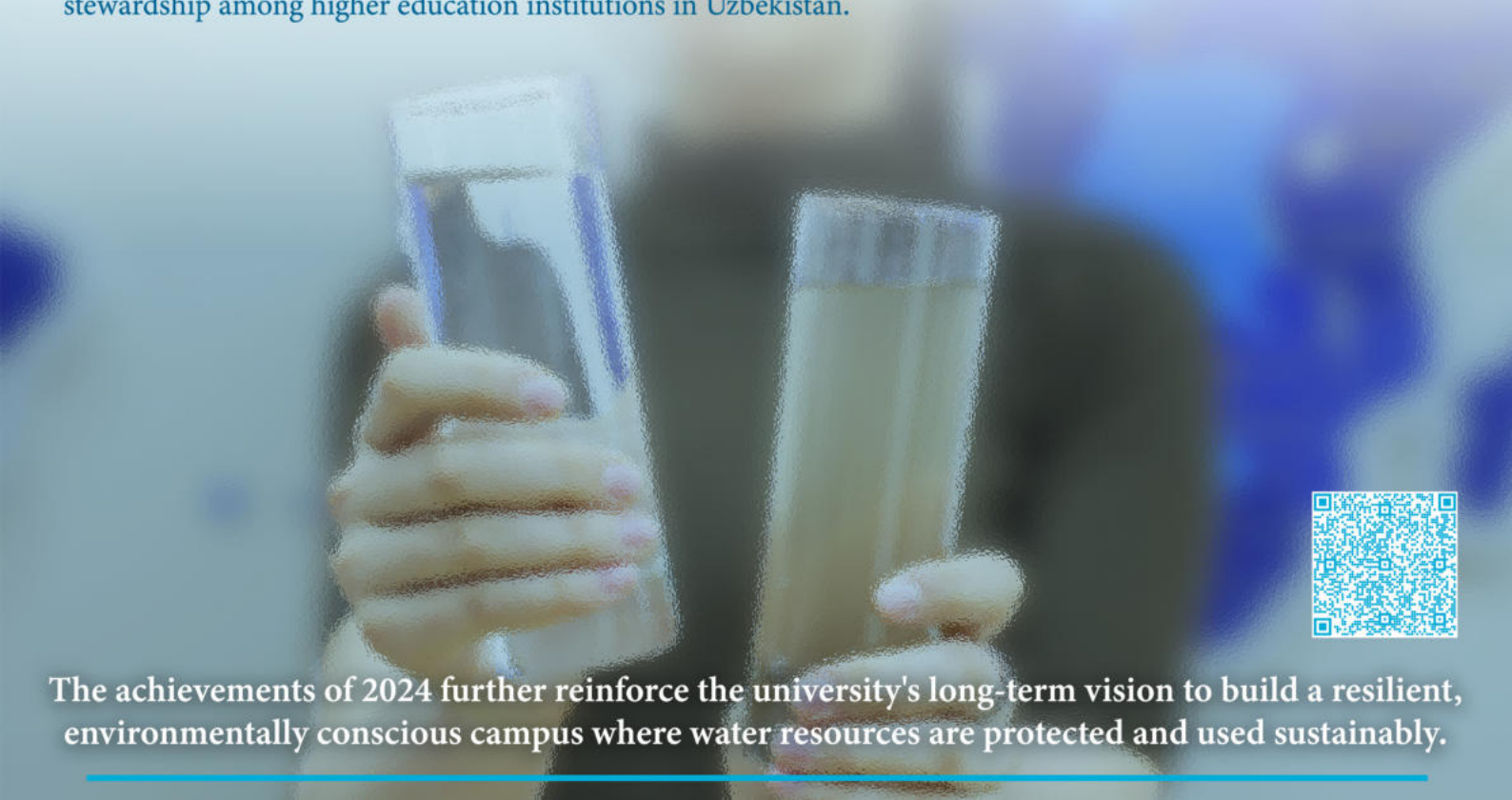
WATER MANAGEMENT SYSTEM

Sustainable infrastructure forms a key component of TSUULL's water policy. All new construction projects are required to adopt water-saving technologies such as **sensor-based taps, low-flow toilets, and optimized irrigation systems**. Renovation plans must replace outdated pipelines, faucets, and sanitary fixtures with water-efficient alternatives, while contractors are expected to follow sustainability-focused procurement guidelines when selecting materials and equipment.

Appliance	Total number	Water efficient appliances	Percentage
Toilet	230	180	78%
Washbasin	160	140	87%
Bath shower	125	110	88%
Average		Average	84%

To safeguard uninterrupted service, the university maintains a dedicated technical team responsible for routine inspections of pipelines and water distribution systems. Any leaks or malfunctioning fixtures are required to be repaired within **24 to 48 hours**, ensuring minimal water loss and preventing structural damage.

This rapid-response system is essential to maintaining operational efficiency and upholding TSUULL's commitment to environmental stewardship. TSUULL's approach to water management reflects a strong institutional commitment to SDG 6—Clean Water and Sanitation. Through strategic infrastructure upgrades, continuous monitoring, and proactive maintenance, the university ensures efficient use of water and provides a safe, hygienic environment for all campus users. The integration of smart technologies, combined with educational initiatives and strict sustainability standards, has positioned TSUULL as a leading example of responsible water stewardship among higher education institutions in Uzbekistan.



The achievements of 2024 further reinforce the university's long-term vision to build a resilient, environmentally conscious campus where water resources are protected and used sustainably.

Sanitation and Hygiene Standarts

TSUULL upholds comprehensive sanitation and hygiene standards designed to create a safe, healthy, and welcoming campus environment for students, faculty, staff, and visitors. The university ensures continuous access to safe drinking water through modern filtration units installed in all academic, administrative, and residential buildings. These units undergo routine cleaning, disinfection, and water-quality testing, with all procedures recorded in digital maintenance logs that are reviewed monthly by administrative supervisors to ensure transparency and accountability.

In 2024, the **Sustainable Practices Office at TSUULL** continued to enhance the university's water treatment processes by efficiently utilizing ***aluminum sulfate as a coagulant***. This compound plays a crucial role in removing suspended solids, dissolved organic matter, and mineral colloids from both groundwater and surface water sources, which together supply the majority of the university's water needs. Through this process, the university ensures the consistent delivery of safe and high-quality water to all facilities, including academic buildings, dormitories, and service areas. Regular monitoring and optimization of chemical dosing have further improved treatment efficiency and reduced overall environmental impact.

TSUULL strictly complies with Uzbekistan's national sanitary norms, covering all areas such as water safety, restroom infrastructure, waste management protocols, indoor air quality, and hygiene requirements. In addition to internal monitoring, the university undergoes annual assessments by authorized sanitary-epidemiological agencies, whose inspection results guide targeted improvements. All corrective actions are implemented within the prescribed deadlines, ensuring continuous regulatory compliance. Daily cleanliness is maintained through a structured cleaning and disinfection program, which includes detailed schedules for **classrooms, corridors, laboratories, cafeterias, and student dormitories.** Sanitation personnel receive continuous training on proper hygiene procedures, safe handling of cleaning chemicals, use of protective equipment, and emergency response practices. Special attention is given to high-traffic and high-touch areas—such as dining spaces, computer labs, libraries, and restrooms—which are serviced more frequently to minimize health risks.

To further strengthen sanitation quality, TSUULL actively encourages community participation by collecting real-time feedback from students and staff through QR-code surveys placed around campus. This system enables quick reporting of issues, supports data-driven decision-making, and ensures that priority attention is given to areas requiring immediate improvement.

EMERGENCY WATER ACCESS & SAFETY

TSUULL has established a ***comprehensive and highly structured system*** to ensure uninterrupted access to safe water and sanitation during emergency situations, reinforced by clearly defined operational protocols, continuous monitoring mechanisms, and rapid communication channels. At the core of this system is the university's **Water Supply Contingency Plan**, a detailed procedural document that specifies step-by-step actions to be taken in cases of water shortages, contamination incidents, or pipeline failures. This plan outlines responsibilities for each unit—such as the Utilities Department, Technical Services, the Rector's Office, and dormitory administrators—**enabling immediate, coordinated mobilization** to minimize disruption to teaching, research activities, and student living conditions.

To support uninterrupted service, emergency water storage units with defined capacity thresholds are strategically distributed across essential facilities, including dormitories, cafeterias, the central library, and priority academic buildings. These reserves are inspected monthly to ensure readiness and compliance with national safety standards. In addition to indoor storage systems, TSUULL maintains several outdoor water-holding structures—***such as artificial reservoirs, small lakes, and engineered collection pits***—located on university grounds. These structures serve as supplementary water buffers during emergency situations and help stabilize water availability in the event of unexpected shortages. Regular ecological monitoring ensures that the reservoirs remain safe, functional, and aligned with environmental regulations. In the event of wider municipal disruptions, the university maintains pre-established coordination procedures with Tashkent city water authorities, enabling rapid technical assistance, temporary supply rerouting, or mobile water delivery when necessary.

Water safety is further ensured through ***rigorous quarterly laboratory testing***, conducted by certified sanitary-epidemiological centers. Samples are collected from filtration units, food preparation areas, restrooms, and main pipeline inlets, and are analyzed for microbiological indicators (e.g., coliform bacteria, E. coli) as well as chemical parameters (e.g., chlorine levels, nitrates, pH balance). All test results are **digitally documented, archived for five years**, and made publicly accessible upon request to maintain transparency and institutional accountability. Should any test results fall outside the established safety thresholds, the university implements **immediate corrective actions**, such as flushing distribution lines, replacing filtration cartridges, disinfecting storage tanks, or temporarily shutting down affected zones to prevent exposure.

An essential component of TSUULL's emergency water safety system is its ***Health & Safety Communication Protocol***, designed to ensure fast, clear, and campus-wide awareness during any water-related incident. In cases of contamination risks or temporary outages, automatic ***SMS alerts, mass email notifications, and building-level signage*** are deployed within minutes to inform students and staff of the situation. Messages include specific instructions—such as boiling water before use, avoiding specific restrooms, or using alternative water stations—until the issue is resolved. After every event, the university distributes **post-incident guidance** outlining safe practices, recovery steps, and preventive recommendations.

By integrating preventative planning, real-time monitoring, emergency infrastructure, and transparent communication, TSUULL ensures a **high level of resilience and safety in its water and sanitation systems**, protecting the health and well-being of the entire university community even under unexpected conditions.

University and Location	Average Rainfall (mm/hr)	Water Flow Rate (liters/hr)	Number of reservoirs	Capacity of Reservoirs (liters)	Number of retention ponds	Capacity of Lakes (liters)	Number of Recharging Pits	Capacity of Recharging Pits (liters)
TSUULL Main Campus	0.4	1000	3	30000	2	50000	2	10000
Akkurgan Campus	0.5	1500	2	20000	1	40000	4	20000