

## SDG 6. Clean water and sanitation

Sustainable Development Goal 6 (SDG 6) aims to "**ensure availability and sustainable management of water and sanitation for all**" by 2030. For a university like **Urgench State University (UrSU)**, located in the water-scarce Khorezm region near the Aral Sea, this goal is not just a global target—it is a local necessity.

Urgench State University has become a regional leader in addressing these challenges, currently ranking in the **600–800th bracket** globally for its impact on SDG 6 (THE Impact Rankings 2024).

University's contribution is divided into academic research, campus management, and community outreach.

### 1. Research & Innovation (Target 6.3 & 6.4)

The university's location in the lower Amudarya basin makes it a hub for studying water-use efficiency and salinity.

- **Water Management Technology:** Researchers at the Department of Technics and Chemical Technology are developing digital tools for monitoring water resources. A notable focus is the "**Optimal Control of Hydraulic Processes,**" which helps improve the efficiency of local irrigation systems.
- **Wastewater Treatment:** Scientific seminars at UrSU often explore the use of **ionites** (sorbents made from local waste) to treat wastewater, helping to reduce chemical pollution in local water bodies.
- **Salinity Analysis:** UrSU operates labs dedicated to analyzing soil and water salinity—a critical issue for Khorezm's agriculture. This data helps farmers use less water while maintaining crop yields.

### 2. Regional Context: The Aral Sea & Khorezm

In Khorezm, approximately **97% of water usage** goes toward irrigation. Because the region is at the "tail end" of the Amudarya river, water scarcity is a constant threat.

- **The Nexus Approach:** UrSU participates in international projects (like those funded by USAID) that use "Nexus" simulations to teach students and local experts how water, energy, and food security are interconnected.
- **Climate Resilience:** The university works on identifying irrigation networks using **GIS (Geographic Information Systems)** to create databases that help the government better distribute water during droughts.

### 3. Student & Community Involvement (Target 6.b)

- **Volunteer Efforts:** Student groups, particularly from the Faculty of Chemical Technology and Natural Sciences, participate in local "Hashars" (community workdays) to clean up campus grounds and local water canals.
- **Awareness Campaigns:** The university hosts seminars featuring experts from the **Ecological Party of Uzbekistan** and regional water management authorities to educate students on the rational use of water.

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