

TERMEZ STATE UNIVERSITY

WATER CONSERVATION PROGRAM

IMPLEMENTATION REPORT

2025

Item	Information
University	Termez State University
Country	Uzbekistan
Reporting year	2025
Web address	https://www.tersu.uz
Document status	Final institutional report

1. Executive Summary

Termez State University implemented a comprehensive water conservation program in 2025 to reduce freshwater use, improve operational efficiency, strengthen groundwater management, and ensure reliable irrigation of campus green areas. The program integrates policy measures, water-efficient infrastructure, rainwater harvesting, groundwater recharge, low-consumption sanitary equipment, and continuous monitoring.

In 2025 the university operated 4 artesian wells, 6 water towers, 3 water reservoirs, 5 recharge pits, rainwater collection systems, drip irrigation systems, sprinkler irrigation systems, and low-water-use sanitary fixtures. Water supplied through artesian infrastructure and distributed for irrigation, household, and technical purposes was managed through scheduled monitoring and maintenance.

Compared with the 2022 baseline, managed water consumption decreased substantially by 2025 as a result of infrastructure upgrades, efficient irrigation, reduced system losses, and user awareness activities. The program also improved the reliability of landscape irrigation and reduced dependence on fresh potable water for non-potable uses.

2. Water Conservation Policy

Termez State University applies a university-wide Water Conservation Policy for all campuses, academic buildings, dormitories, landscape areas, and technical facilities. The policy establishes the following operational principles:

- Freshwater must be used efficiently and only for appropriate purposes.
- Rainwater and non-potable water sources must be captured, stored, and used whenever technically feasible.
- Groundwater withdrawal from artesian wells must be monitored and controlled.

- All new and renovated facilities must use water-efficient fixtures and fittings.
- Landscape irrigation must prioritize drip and sprinkler systems instead of open-flow irrigation.
- Leaks, losses, and over-irrigation must be identified and corrected without delay.
- Water consumption data must be monitored regularly and reviewed by the responsible administrative units.
- Students and staff must be involved in water-saving awareness and behavior-change activities.

Implementation responsibility is shared by the Rectorate, Administrative and Economic Department, Engineering and Technical Services, Green Campus coordination team, faculty administrations, dormitory management, and campus maintenance personnel.

3. Program Governance and Implementation Structure

Unit / Responsible body	Main function
Rectorate	Approval of policy, annual targets, and oversight of implementation
Administrative and Economic Department	Budget allocation, procurement, and coordination of utility management
Engineering and Technical Services	Operation of wells, reservoirs, pumps, pipelines, and low-flow infrastructure
Landscape and Maintenance Team	Operation of drip and sprinkler irrigation systems and irrigation scheduling
Green Campus Coordination Team	Monitoring, reporting, awareness activities, and record consolidation
Dormitory and Building Managers	Daily supervision of water use and reporting of leakage or malfunction

4. Water Conservation Infrastructure Overview

The water conservation program is supported by physical infrastructure installed and operated across the university's campuses and training base. The inventory below summarizes the main assets in use during 2025.

Infrastructure item	Quantity / Capacity	Operational status in 2025
Artesian wells	4 units	Active
Water towers	6 units	Active
Water reservoirs	3 units	Active
Rainwater storage tanks	3 units / 143,000 liters total	Active
Recharge pits	5 units / 47,000 liters recharge capacity	Active
Drip irrigation systems	Installed in landscaped planting areas	Active
Sprinkler irrigation systems	Installed in lawns and green fields	Active

Low-flow and sensor taps	Installed in academic and service buildings	Active
Low-flush toilets and automatic cisterns	Installed in campus sanitation facilities	Active
Bio-toilets	Installed in designated facilities	Active

5. Groundwater Management

The university operates 4 artesian wells to supply water for irrigation, household operations, and technical uses. Water withdrawn from the wells is conveyed through the campus distribution system and stored in water towers and reservoirs before final use. Routine monitoring of abstraction volumes and distribution performance is carried out by the Engineering and Technical Services unit.

Indicator	2025 value
Number of artesian wells	4
Number of water towers	6
Number of water reservoirs	3
Annual water supplied from artesian wells	42,280 m ³
Primary uses	Landscape irrigation, household needs, technical needs
Monitoring frequency	Monthly

Water supplied from artesian wells is allocated carefully to avoid unnecessary losses. A significant share is used for landscape irrigation through efficient irrigation systems, while the remaining share supports household and technical needs, including building service functions. Water-saving fittings and controlled irrigation schedules reduce pressure on groundwater resources and support stable year-round operation.

6. Rainwater Harvesting and Groundwater Recharge

Rainwater harvesting infrastructure is used to collect runoff from roofs and paved areas and to direct it toward storage tanks, recharge pits, and green areas. The system supports landscape irrigation, reduces water loss from rainfall events, and improves groundwater recharge potential.

Campus / Location	Average precipitation indicator (mm/h)	Water flow rate (l/h)	No. of rainwater tanks	Rainwater tank capacity (l)	No. of recharge pits	Recharge volume (l)
Rectorate Campus	1.08	13,382	1	72,000	-	-
Main Campus	1.08	151,180	-	-	3	35,000
North Campus	1.08	33,696	-	-	1	7,000

West Campus	1.08	8,694	1	25,000	-	-
Darband training practice base	2.32	585,087	1	46,000	1	5,000
Total	-	-	3	143,000	5	47,000

Rainwater collected through roof gutters and paved-area drainage channels is stored in tanks and directed toward landscape irrigation and recharge structures. Recharge pits are used to improve infiltration and support local groundwater recharge, especially after rainfall events. Storage and recharge infrastructure is inspected regularly, cleaned seasonally, and maintained before the irrigation season.

7. Water-Efficient Irrigation Systems

Water-efficient irrigation systems were used across campus landscapes in 2025. Drip irrigation and sprinkler irrigation were selected according to planting type, soil conditions, and area coverage requirements.

System	Location / Coverage	Estimated irrigated area	Operational benefit
Drip irrigation	Landscape beds, tree lines, shrub zones, and planting strips in the main and rectorate campuses	1.8 ha	Delivers water directly to roots and minimizes evaporation losses
Sprinkler irrigation	Lawns, open green areas, and broad landscape sections in main, north, and west campuses	2.4 ha	Provides controlled and even irrigation across larger areas
Combined efficient irrigation coverage	University landscape areas	4.2 ha	Reduces excessive water use and improves irrigation performance

Irrigation scheduling is carried out in early morning and evening hours during the growing season to reduce evaporative losses. The maintenance team checks emitters, sprinkler heads, valves, and connectors on a biweekly basis during periods of intensive irrigation.

8. Water-Efficient Fixtures and Internal Conservation Measures

In academic and service buildings the university uses low-water-consumption systems to reduce routine water demand. Installed measures in 2025 included low-flow taps, sensor taps, automatic

toilet flushing systems, low-flush toilets, and bio-toilets. These measures lowered water use in sanitation and daily operation and improved resource management efficiency.

Measure	Application in 2025	Outcome
Low-flow taps	Installed in academic, administrative, and service buildings	Reduced water use at sinks and wash areas
Sensor taps	Installed in selected high-use sanitary zones	Prevented unnecessary continuous flow
Automatic cisterns	Installed in sanitation facilities	Improved flush control
Low-flush toilets	Installed in campus sanitation blocks	Reduced per-use water consumption
Bio-toilets	Applied in designated facilities	Lowered water demand in relevant locations
Leak control and repair	Routine inspection and repair of networks and fixtures	Reduced system losses

9. Water Conservation Campaigns and Awareness Activities

The water conservation program in 2025 included educational and awareness activities for students, academic staff, administrative staff, and service personnel. The purpose of the campaigns was to strengthen daily water-saving behavior and support proper use of conservation infrastructure.

Activity	Date / Period	Participants / Reach	Main content
Water Saving Week	April 2025	620 participants	Daily awareness sessions, demonstrations, and student engagement activities
World Water Day seminar	March 2025	180 participants	Seminar on efficient water use and water resource protection
Dormitory awareness sessions	May–October 2025	240 participants	Responsible water use in living areas and sanitation facilities
Technical staff training	February and August 2025	48 staff members	Operation and maintenance of irrigation and low-flow equipment
Poster and signage campaign	Throughout 2025	45 poster points across campuses	Water-saving reminders in visible campus locations
Social media and digital awareness	Throughout 2025	12 online campaign posts	Practical messages on saving water in campus life

10. Monitoring and Evaluation

Water consumption and conservation performance were monitored through infrastructure inspections, meter readings, maintenance logs, and periodic reviews. Annual data for 2022–2025 show a steady reduction in managed water consumption as conservation measures were expanded.

Year	Managed water consumption (m³)	Change from previous year	Reduction vs. 2022 baseline
2022	94,000	-	-
2023	76,800	-17,200 m³	18.3%
2024	59,600	-17,200 m³	36.6%
2025	42,280	-17,320 m³	55.0%

The 2025 result reflects a cumulative reduction of 51,720 m³ compared with the 2022 baseline. This reduction was achieved through efficient irrigation, rainwater use, recharge structures, improved sanitary equipment, operational control, and awareness activities.

Month	Managed water consumption (m³)
January	2,980
February	2,870
March	3,120
April	3,290
May	3,760
June	3,980
July	4,160
August	4,090
September	3,720
October	3,360
November	3,170
December	3,780
Total	42,280

Monitoring item	Frequency	Responsible unit
Artesian well output and operation	Monthly	Engineering and Technical Services
Water tower and reservoir condition	Monthly	Engineering and Technical Services
Rainwater tanks and gutters	Seasonal and after rainfall events	Maintenance Team
Recharge pit condition	Monthly during wet season	Maintenance Team
Drip and sprinkler equipment	Biweekly during irrigation season	Landscape Team
Water-saving fixtures	Monthly inspection	Building managers and

		technical staff
Leakage reporting and repairs	Continuous / as needed	Technical Services

11. Environmental and Operational Impact

The 2025 water conservation program produced measurable environmental and operational benefits across the university.

- Freshwater demand for campus operations was reduced substantially compared with the 2022 baseline.
- Groundwater abstraction pressure was reduced through more efficient distribution and use.
- Rainwater harvesting and recharge systems improved the use of naturally available water and supported groundwater replenishment.
- Drip and sprinkler irrigation improved irrigation efficiency and reduced water losses from open-flow watering.
- Low-flow fixtures reduced unnecessary daily consumption in buildings.
- Green areas were maintained more reliably through controlled irrigation scheduling.
- Systematic monitoring improved maintenance response and reduced leakage-related losses.

Impact indicator	2025 result
Reduction in managed water consumption vs. 2022 baseline	51,720 m ³
Relative reduction vs. 2022 baseline	55.0%
Rainwater tank storage capacity	143 m ³
Recharge pit capacity	47 m ³
Efficiently irrigated green area	4.2 ha
Leak incidents requiring repair	4 cases in 2025

12. Contribution to Sustainable Development

The water conservation program contributes to broader institutional sustainability objectives by improving water efficiency, campus resilience, and green area management.

Area of contribution	Contribution of the program
Clean water management	Promotes efficient use and stewardship of water resources on campus
Campus resilience	Supports reliable irrigation and operational continuity in a water-stressed climate
Responsible consumption	Reduces avoidable use of freshwater through efficient systems and behavior change
Climate response	Improves adaptation through rainwater use and resilient resource management
Green landscape support	Maintains healthy green areas through controlled irrigation and water conservation

13. Documents and Materials Published on the University Website

The following materials were prepared and published through the official university web resources in 2025 as part of implementation and public reporting of the water conservation program:

- Water Conservation Policy
- Annual Water Conservation Program Implementation Report
- Water infrastructure inventory tables
- Annual and monthly water monitoring results
- Rainwater harvesting and recharge infrastructure summary
- Water-efficient irrigation system summary
- Awareness campaign materials and event news
- Photo gallery of water conservation infrastructure and activities

14. Conclusion

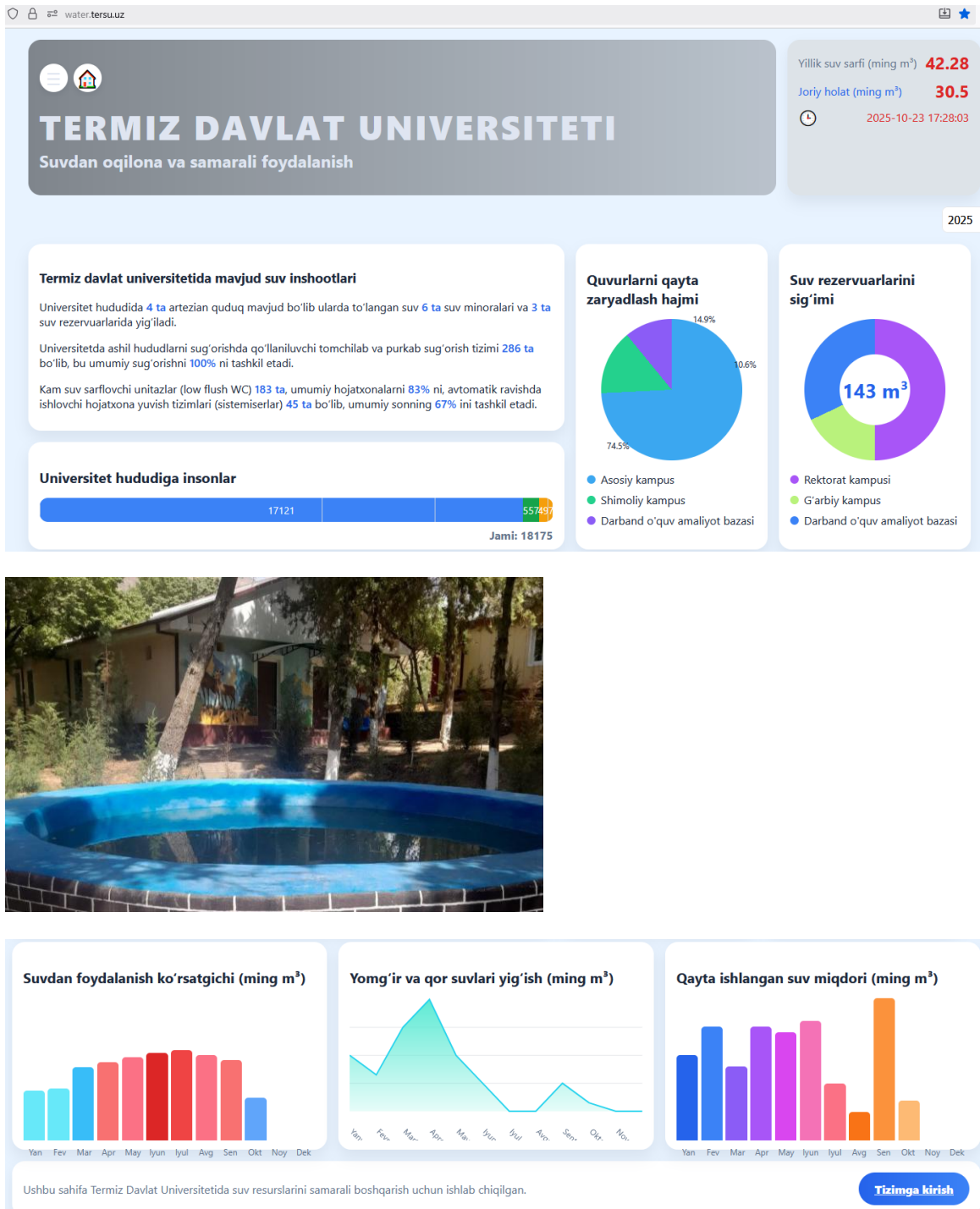
The 2025 implementation of the water conservation program at Termez State University demonstrates a coordinated and operationally integrated approach to water resource management. Through groundwater monitoring, rainwater harvesting, recharge pits, efficient irrigation systems, low-consumption sanitary equipment, and regular awareness work, the university strengthened water efficiency and reduced managed water consumption in a sustained manner. The program also improved the reliability of landscape irrigation and supported the long-term protection of water resources across university campuses.

Annex 1. Photo Evidence Placeholders

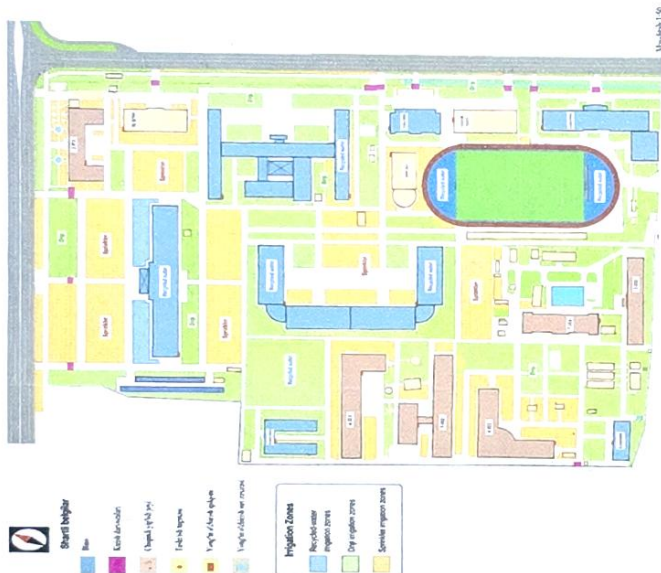
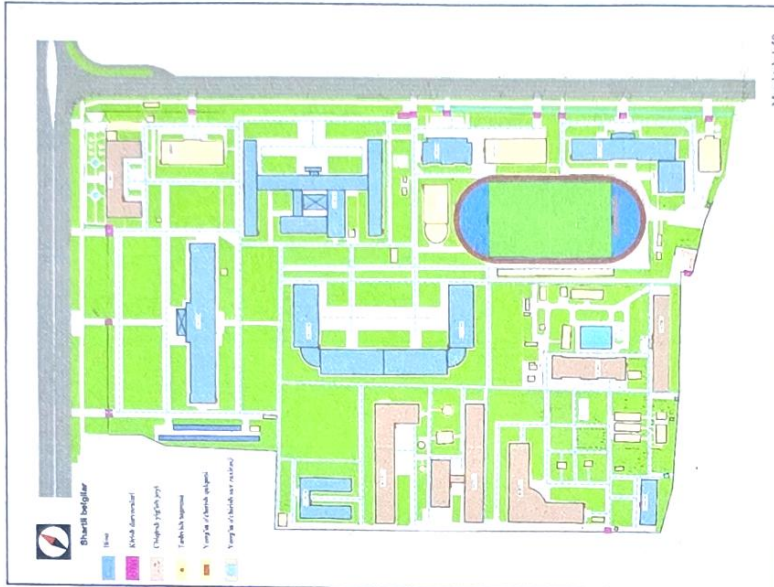








Annex 2. Site and System Visual Placeholders



Signed by the Rector:

Nurillo Khursandov

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Agreed by:

Gafur Togaev

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