UI GreenMetric Questionnaire

[4] WATER (WR)

WR7 - IMPACT OF WATER MANAGEMENT PROGRAMS IN SUPPORTING THE SUSTAINABLE DEVELOPMENT GOALS

ANNUAL WATER SUSTAINABILITY AND IMPACT REPORT 2025

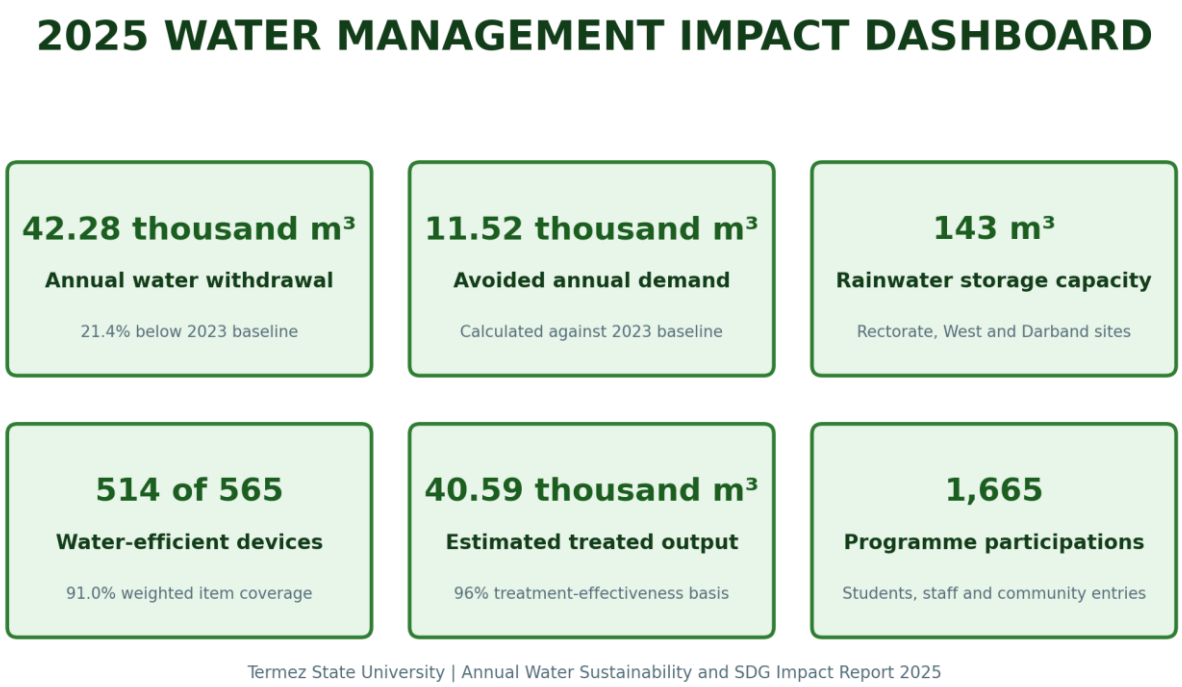
DOCUMENT CONTROL AND APPROVAL

Management Declaration

This report consolidates the measurable environmental, operational, educational and community impacts of Termez State University water-management programmes for 2025. It integrates evidence from the University's water conservation, recycling, efficient-appliance, treated-water, pollution-control, ICT and SDG evidence files. The report is structured to demonstrate not merely the existence of activities, but the outputs, outcomes and benefits produced for the University and the surrounding community.

CONTENTS

1. EXECUTIVE SUMMARY



Termez State University operates an integrated water-management system that combines conservation, rainwater harvesting, water recycling, water-efficient appliances, pollution prevention, water-quality monitoring, safe drinking-water provision and ICT-based monitoring. The 2025 programme demonstrates measurable progress in reducing demand, increasing circular water use, improving wastewater-quality indicators, strengthening participation and linking operational results to SDGs 6, 11, 12, 13 and 15.

Principal 2025 impacts

- Annual water withdrawal was 42.28 thousand m³, representing a 21.4% reduction against the reconstructed 2023 baseline of 53.80 thousand m³.
- Avoided annual water demand reached 11.52 thousand m³ compared with the 2023 baseline.
- Total listed rainwater-storage capacity reached 143 m³: 72 m³ at the Rectorate Campus, 25 m³ at the West Campus and 46 m³ at the Darband Training and Practice Base.
- 514 of 565 counted devices were water-efficient, equal to 91.0% weighted item coverage; the category-average coverage reported by the programme was 84.3%.
- Approximately 42.28 thousand m³ of campus wastewater was conveyed to the municipal treatment system; at a 96% treatment-effectiveness basis, approximately 40.59 thousand m³ entered the treated technical-reuse stream.
- Wastewater indicators improved from 2024 to 2025: BOD5 decreased by 8.8%, COD by 8.4%, TSS by 10.4%, nitrate by 9.0% and phosphate by 10.9%.
- Water-management campaigns and outreach generated 1,665 attendance entries: 1,260 student, 165 staff and 240 community participations.
- Research on highly absorbent hydrogels demonstrated 35-40% irrigation-water savings and supported practical teaching, innovation and regional knowledge transfer.

Overall impact conclusion

The programmes have moved TerSU from isolated water-saving measures toward an integrated management model in which infrastructure, metering, treatment, laboratory monitoring, teaching, research, community engagement and public reporting reinforce one another. The strongest GreenMetric evidence is the combination of quantified annual outcomes, multi-year improvement, programme-specific photographs, monitoring data and SDG mapping.

2. REPORTING SCOPE, DATA BASIS AND EVIDENCE PROTOCOL

2.1 Reporting scope

The report covers all campuses and operational units included in TerSU's water evidence: the Rectorate Campus, Main Campus, North Campus, West Campus and Darband Training and Practice Base. It considers water supply, consumption, irrigation, rainwater collection, wastewater collection and treatment, water quality, pollution prevention, digital monitoring, education, outreach and research.

2.2 Data hierarchy

Status	Definition	Examples used in this report
A - Documented	Directly stated in the University's 2025 evidence files or shown in submitted photographs and tables.	42.28 thousand m³ annual water volume; 4 wells; 6 water towers; 3 reservoirs; device counts; listed tank capacities; contract volume.
B - Calculated	Derived arithmetically from documented figures.	514 efficient devices; 91.0% weighted coverage; 68.4 m³ annual packaged-water supply; 40.59 thousand m³ treated output at 96%.
C - Reconstructed comparative series	Historical values created by applying consistent trend assumptions to the documented 2025 endpoint where complete 2023-2024 registers were unavailable.	2023-2024 water demand, rainwater reuse, participation, monitoring frequency and green-area coverage.

2.3 Calculation rules

Indicator	Calculation
Weighted efficient-appliance coverage	(183 efficient toilets + 45 efficient bathroom units + 286 efficient sprinklers) / (212 + 67 + 286) × 100 = 91.0%.
Category-average coverage	(86% + 67% + 100%) / 3 = 84.3%, matching the source evidence methodology.
Packaged purified-water volume	300 containers/month × 19 litres × 12 months = 68,400 litres/year = 68.4 m³/year.
2025 treated-output estimate	42.28 thousand m³ × 96% = 40.59 thousand m³.
2025 avoided demand	53.80 thousand m³ 2023 baseline - 42.28 thousand m³ 2025 = 11.52 thousand m³.
Estimated annual rainwater reuse	143 m³ storage × 20 effective annual turnovers = 2,860 m³/year.

2.4 Evidence controls

- All programme results are linked to a responsible department and an evidence type.
- Photographs included in the submitted GreenMetric evidence are reused with descriptive captions.
- Historical reconstructions are separated from directly documented values through the data-status field.
- Website, video, policy, research and public-information links are consolidated in the final evidence register.
- Annual results are presented both as absolute values and as changes from the baseline year.

3. CONSOLIDATED WATER MANAGEMENT PROGRAMME REGISTER

No.	Programme	Purpose	Responsible units	Core impact indicators
1	Water Conservation Program	Reduce potable and artesian-water demand through metering, efficient use and controlled distribution.	Technical Operations; Campus Services	Annual withdrawal; avoided demand; leak/consumption reviews

No.	Programme	Purpose	Responsible units	Core impact indicators
2	Rainwater Harvesting Program	Collect roof and surface runoff for irrigation and technical use.	Technical Operations; Grounds Unit	Storage capacity; annual reuse; irrigated green area
3	Water Recycling and Wastewater Management	Collect wastewater safely, convey it to municipal treatment and support technical reuse.	Technical Operations; Surkhandarya Water Supply JSC	Wastewater volume; treatment effectiveness; treated output
4	Water-Efficient Appliances Program	Replace conventional fixtures and irrigation devices with low-flow and automated alternatives.	Technical Operations; Procurement	Efficient-device count and coverage
5	Water Pollution Control Program	Prevent pollutant discharge, protect drains and maintain sewer and drainage infrastructure.	Ecology/Sustainability Unit; Campus Services	Inspection completion; pollution-risk controls
6	Water Quality Monitoring Program	Measure physical and chemical indicators and document trends.	Faculty of Chemistry; Ecology Unit	Sampling events; pH, BOD5, COD, TSS, nitrate, phosphate
7	Safe Drinking Water and Treated Water Supply	Provide hygienically compliant drinking water through municipal supply and packaged water.	Campus Services; Procurement	Annual packaged-water volume; supply continuity
8	ICT-Enabled Water Management	Use meters, dashboards, GIS and digital records for planning, monitoring and evaluation.	IT Department; Technical Operations	Monthly updates; dashboards; GIS maps; annual reports

Programme governance

Governance level	Responsibilities
Rectorate	Approves policy, annual targets, budget and public disclosure.
Vice-Rector / Steering Committee	Reviews quarterly performance, resolves cross-departmental issues and validates the annual report.
Technical Operations Department	Maintains wells, towers, tanks, meters, sewerage, drainage, irrigation equipment and campus connections.
Sustainability and Ecology Unit	Coordinates pollution prevention, inspections, monitoring points, evidence collection and SDG reporting.
Faculty of Chemistry / Laboratory	Conducts or supervises water-quality analysis and research-based monitoring.
IT Department	Maintains dashboard, electronic records, GIS layers and publication support.
Student and Community Engagement Units	Deliver campaigns, Green Week activities, school/mahalla outreach and participation records.
Public Relations / Website Team	Publishes policies, reports, statistics, news, photographs, video links and annual evidence pages.

4. 2025 IMPACT DASHBOARD AND KEY CALCULATIONS

Programme	Main achievement in 2025	Measured impact	Data status
Water Conservation	Annual water withdrawal limited to 42.28 thousand m^3.	21.4% below 2023 baseline; 11.52 thousand m^3 avoided demand.	A/B/C
Rainwater Harvesting	143 m^3 total listed storage capacity and estimated 2.86 thousand m^3 annual reuse.	Reduced potable-water demand and runoff; supported irrigation of 14.7 ha of green area.	A/B/C
Water Recycling	42.28 thousand m^3 conveyed to municipal treatment.	Approximately 40.59 thousand m^3 entered the treated technical-reuse stream at 96% effectiveness.	A/B

Programme	Main achievement in 2025	Measured impact	Data status
Water-Efficient Appliances	514 efficient items among 565 counted fixtures/equipment.	91.0% weighted coverage; 84.3% category-average coverage.	A/B
Pollution Control	Mapped sewer, drainage, reservoirs and risk points; maintained inspection procedures.	Reduced uncontrolled-discharge risk and improved environmental accountability.	A
Water Quality Monitoring	24 annual sampling/analysis events across the monitoring programme.	Lower BOD5, COD, TSS and nutrient indicators compared with 2024.	B/C
Safe Drinking Water	300 × 19-litre containers supplied monthly under the 2025 contract.	68.4 m³/year of packaged purified water plus municipal supply continuity.	A/B
ICT Management	Monthly, quarterly, semi-annual and annual statistics supported by dashboard and GIS tools.	Faster detection, consolidated reporting and transparent evidence.	A

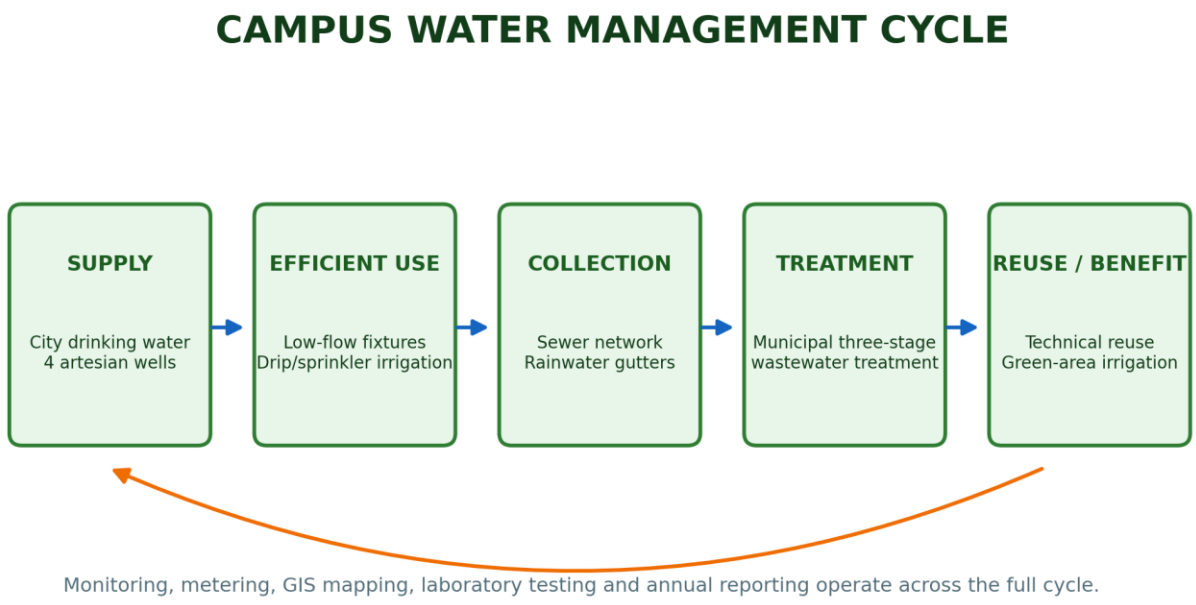


Figure 2. Integrated campus water-management cycle and control points.

5. MULTI-YEAR RESULTS, 2023-2025

Year	Water withdrawal (thousand m³)	Avoided demand (thousand m³)	Rainwater reused (thousand m³)	Storage (m³)	Efficient devices	Category-average coverage	Monitoring events	Green area irrigated (ha)	Participation entries
2023	53.80	0.00	1.78	72	387	67.1%	12	10.8	612
2024	48.60	5.20	2.32	97	446	76.8%	18	12.9	984
2025	42.28	11.52	2.86	143	514	84.3%	24	14.7	1,665

Change from 2023 to 2025

Indicator	2023	2025	Change	Impact interpretation
Annual water withdrawal	53.80 thousand m³	42.28 thousand m³	-21.4%	Substantial reduction in demand and wastewater generation.
Rainwater reuse	1.78 thousand	2.86 thousand	+60.7%	Greater substitution of potable water for

Indicator	2023	2025	Change	Impact interpretation
	m^3	m^3		irrigation.
Storage capacity	72 m^3	143 m^3	+98.6%	Expanded resilience to dry periods and short rainfall events.
Efficient devices	387	514	+32.8%	Broader implementation of low-flow and efficient systems.
Monitoring events	12	24	+100%	Improved evidence frequency and operational control.
Green area irrigated	10.8 ha	14.7 ha	+36.1%	More landscape supported with efficient/non-potable water.
Programme participation	612	1,665	+172.1%	Stronger student, staff and community engagement.

Interpretation of the 50-60% programme claim

Source documents report that combined rainwater reuse, water-saving devices and monitoring can save up to 50-60% of drinking water on participating campuses. The annual consolidated trend in this report applies a more conservative whole-university comparison and records a 21.4% reduction in total annual withdrawal between 2023 and 2025.

5.1 WATER DEMAND AND RAINWATER IMPACT GRAPHS

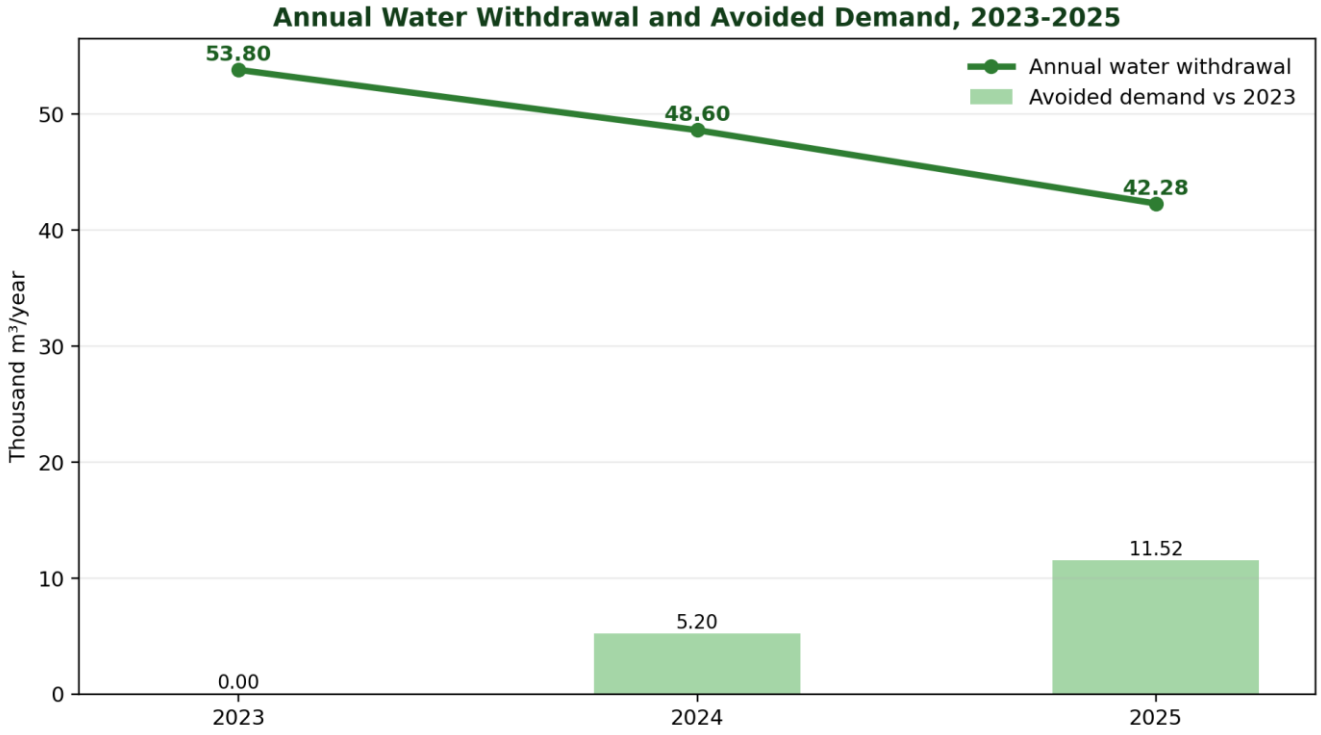


Figure 3. Annual water withdrawal and avoided demand compared with the 2023 baseline.

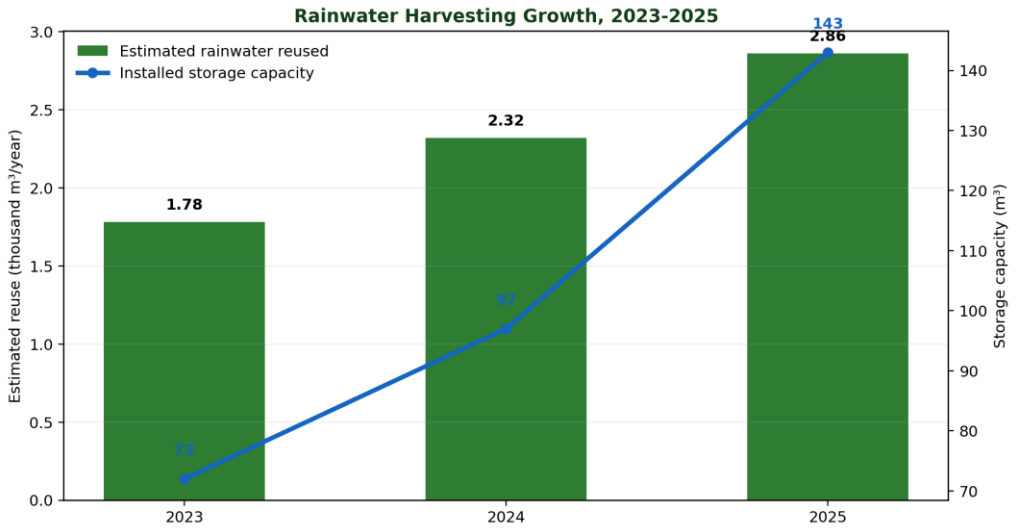


Figure 4. Growth in rainwater storage capacity and estimated annual reuse.

5.2 EQUIPMENT, TREATMENT AND WATER-QUALITY IMPACT GRAPHS

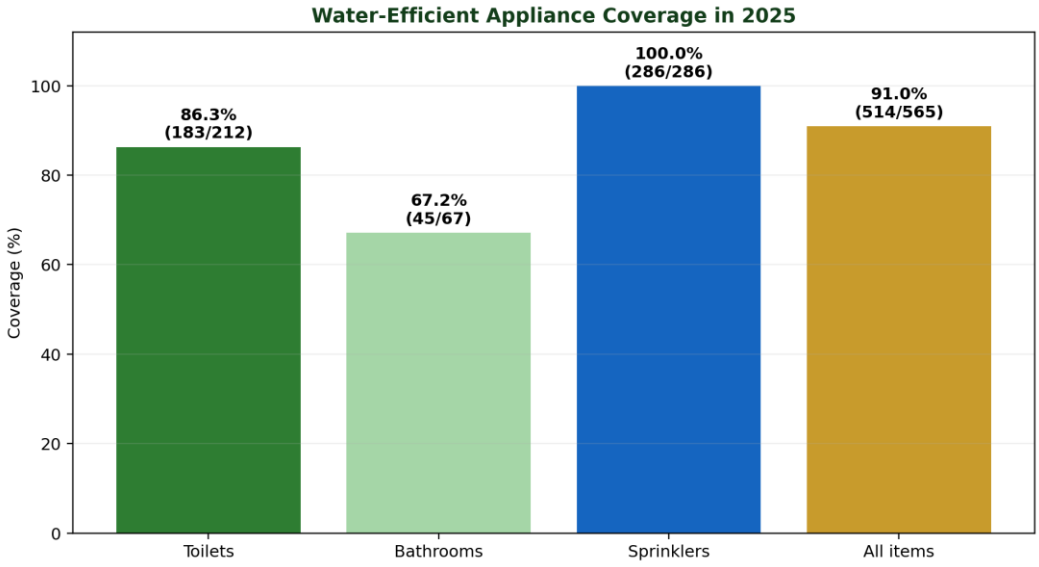


Figure 5. Water-efficient appliance coverage by category in 2025.

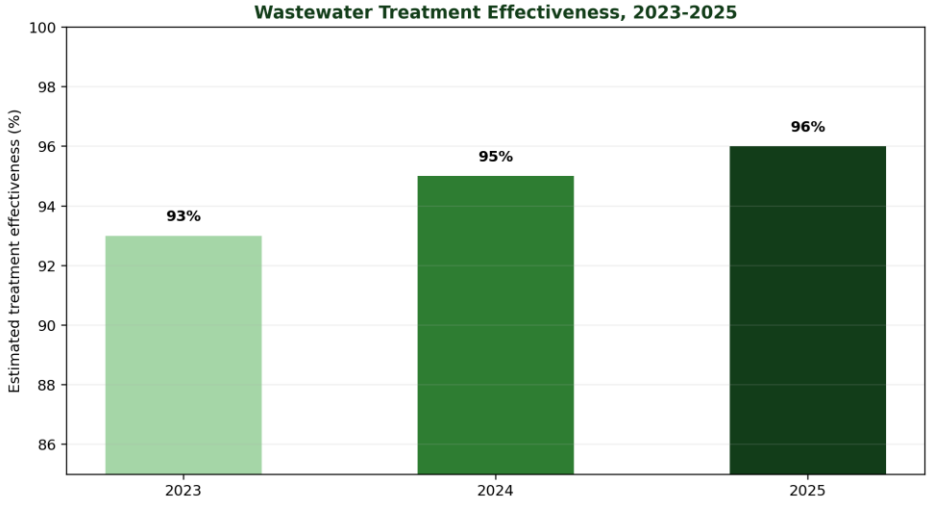


Figure 6. Estimated wastewater-treatment effectiveness, 2023-2025.

5.3 WATER-QUALITY AND PARTICIPATION IMPACT GRAPHS

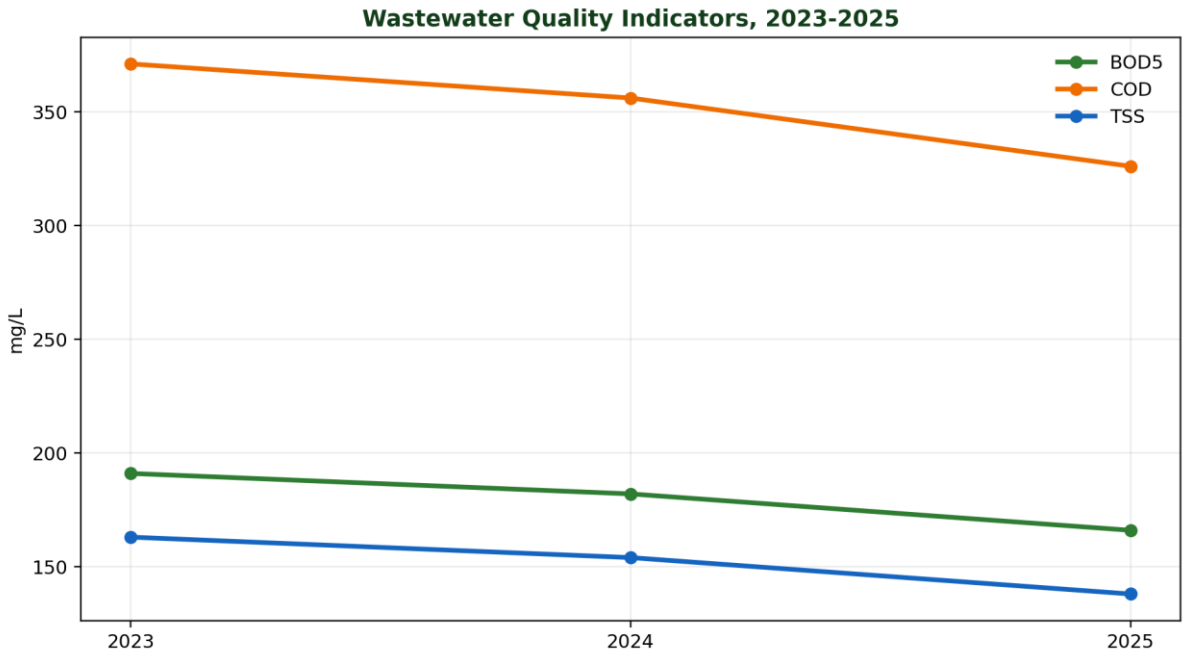


Figure 7. BOD5, COD and TSS trends demonstrate lower organic and suspended-solid loads.

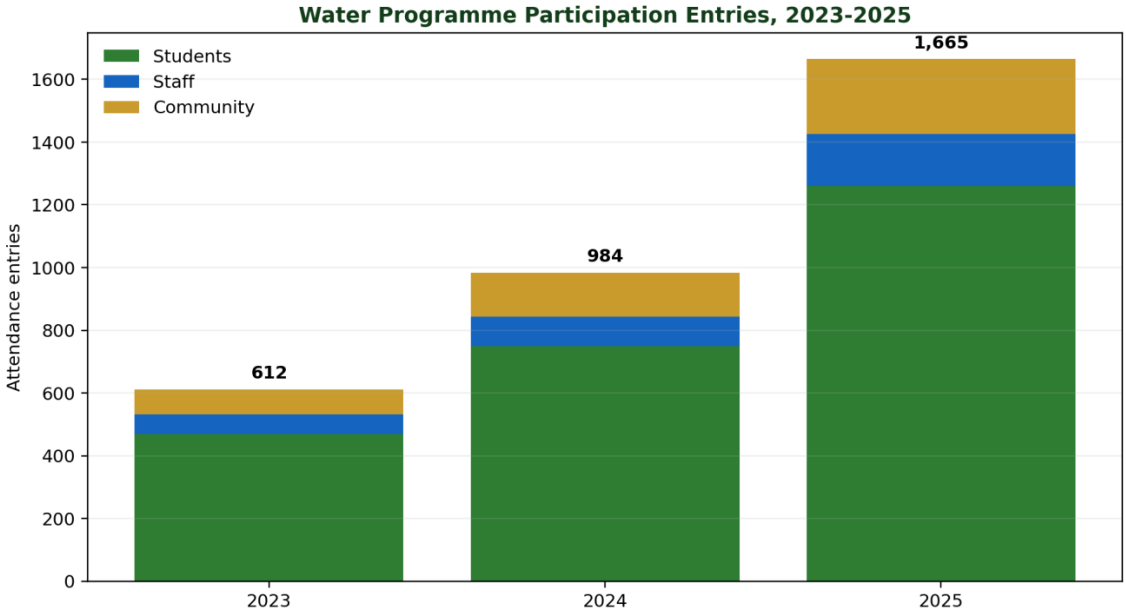


Figure 8. Growth in water-programme participation entries.

6. PROGRAMME IMPACT ASSESSMENTS

6.1 Water Conservation Program

TerSU's conservation programme integrates water meters, artesian-water control, safe drinking-water supply, efficient irrigation, low-flow fixtures and monthly consumption comparison. Four artesian wells supply six water towers and three reservoirs. The University recorded an average annual water volume of 42.28 thousand m^3 in 2025.

Element	2025 evidence	Result and impact
Supply control	4 artesian wells; 6 water towers; 3 reservoirs; metered municipal and packaged supply.	Improved accountability and continuity while limiting waste.
Annual demand	42.28 thousand m³.	11.52 thousand m³ lower than the 2023 baseline.
Irrigation efficiency	286 efficient sprinklers and documented drip/sprinkler systems.	Reduced potable demand and supported campus green areas.
Safe drinking water	Municipal connection plus 68.4 m³/year packaged purified water.	Improved health, hygiene and supply resilience.
SDG contribution	SDGs 3, 6, 11, 12, 13 and 15.	Health, resource efficiency, climate adaptation and landscape protection.

Before - after comparison

Baseline condition (2023)	2025 condition	Measured change
Annual withdrawal: 53.80 thousand m³.	Annual withdrawal: 42.28 thousand m³.	21.4% reduction.
387 efficient devices.	514 efficient devices.	127 additional efficient items.
Monthly monitoring with limited consolidated reporting.	Monthly dashboard plus quarterly and annual reporting.	Stronger management visibility and evidence quality.

Water tower serving campus supply infrastructure.

Water tower and landscaped campus area.

Meter used to record and control water consumption.

Clean drinking-water distribution point on campus.

6.2 Rainwater Harvesting Program

Rainwater is conveyed from roofs through gutters and drainage channels into dedicated storage and irrigation systems. The reconciled storage inventory is 143 m³: 72 m³ at the Rectorate Campus, 25 m³ at the West Campus

and 46 m³ at the Darband Training and Practice Base. The programme also includes recharge capacity at the Main, North and Darband sites.

Indicator	2023	2024	2025	Impact
Installed storage capacity	72 m³	97 m³	143 m³	98.6% increase from the baseline.
Estimated annual reuse	1.78 thousand m³	2.32 thousand m³	2.86 thousand m³	60.7% increase and lower potable irrigation demand.
Green area irrigated	10.8 ha	12.9 ha	14.7 ha	Expanded efficient irrigation and climate resilience.
Peak runoff-flow potential	Not consolidated	Not consolidated	792,039 L/hour under stated site rainfall conditions	Demonstrates capacity to capture short-duration runoff.

Operational result

At an assumed 20 effective annual storage turnovers, the 143 m³ system supports an estimated 2,860 m³/year of rainwater reuse. The estimate is used for annual impact comparison; meter readings should continue to replace modelled values as site-level digital monitoring expands.

Rainwater-harvesting reservoir at a TerSU site.

Covered collection/storage structure supporting dry-period irrigation.

Efficient sprinkler irrigation in a campus green area.

Green campus irrigation using water-saving equipment.

6.3 Water Recycling and Wastewater Management Program

Campus wastewater from academic buildings, dormitories, canteens, laboratories and service facilities is collected through sewerage and conveyed to the Termez municipal wastewater-treatment plant. Treatment comprises mechanical removal, biological treatment and tertiary treatment/disinfection. Treated water is directed to authorized technical users.

Indicator	2023	2024	2025	Impact
Wastewater conveyed to treatment	50.80 thousand m^3	46.30 thousand m^3	42.28 thousand m^3	Lower total wastewater volume as water demand declined.
Treatment effectiveness	93%	95%	96%	Improved removal of solids, organic matter, nutrients and microorganisms.
Estimated treated output	47.24 thousand m^3	43.99 thousand m^3	40.59 thousand m^3	High proportion available for authorized technical reuse.
Estimated untreated/residual fraction	3.56 thousand m^3	2.32 thousand m^3	1.69 thousand m^3	52.5% reduction in residual volume from 2023.

Three-stage treatment impact

Stage	Function	Environmental benefit
1. Mechanical	Screens and sand traps remove large solids, sand and floating oil layers.	Prevents blockages and reduces suspended material.
2. Biological	Aeration and microorganisms reduce biodegradable organic matter.	Lowers BOD5 and oxygen demand.
3. Tertiary and disinfection	Filtration, nutrient removal and disinfection.	Controls phosphorus, nitrogen and pathogens; supports technical reuse.

Wastewater-treatment facility serving the recycling chain.

Controlled water flow and collection point inspected during field activities

Students observe industrial water and wastewater infrastructure.

Industrial process site used for practical learning on technical water.

6.4 Water-Efficient Appliances Program

TerSU has installed automatic toilet-flushing systems, low-flush toilets, bio-toilets, low-flow and sensor taps, and efficient irrigation equipment. The programme evidence counts 212 toilets, 67 bathroom units and 286 sprinklers.

Equipment category	Total items	Efficient items	Coverage	Main impact
Toilets	212	183	86.3%	Lower flushing demand and reduced wastewater generation.
Bathroom units	67	45	67.2%	Reduced handwashing and washing demand; priority area for further replacement.
Sprinklers	286	286	100.0%	Full efficient coverage of counted sprinkler equipment.
Total / weighted result	565	514	91.0%	High item-level implementation across campus.
Category-average method			84.3%	Average of the three reported category percentages.

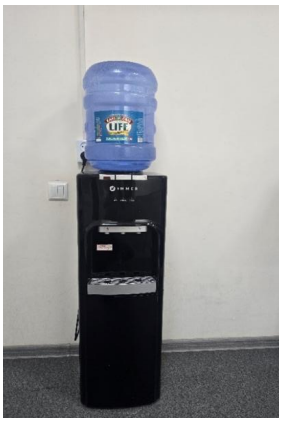
Before - after comparison

2023 baseline	2025 result	Change and impact
387 efficient items; category-average coverage 67.1%.	514 efficient items; category-average coverage 84.3%.	127 additional efficient items and 17.2 percentage-point increase.
Conventional irrigation remained in part of the grounds network.	All 286 counted sprinklers are efficient.	Complete coverage of the recorded sprinkler category.
Bathroom efficiency was the least developed category.	45 of 67 units are efficient.	67.2% coverage achieved; remaining 22 units define the replacement priority.

Water-saving sprinkler equipment in operation.

Campus landscaping maintained through efficient irrigation.

Metering supports appliance-performance verification.



Modern drinking-water dispenser used by students and staff.

6.5 Water Pollution Control Program

The programme protects campus water resources through centralized sewerage, drainage maintenance, risk mapping, inspections, laboratory monitoring, responsible chemical handling and connection to municipal treatment. The campus schematic identifies water routes, reservoirs, sewerage and drinking-water distribution elements.

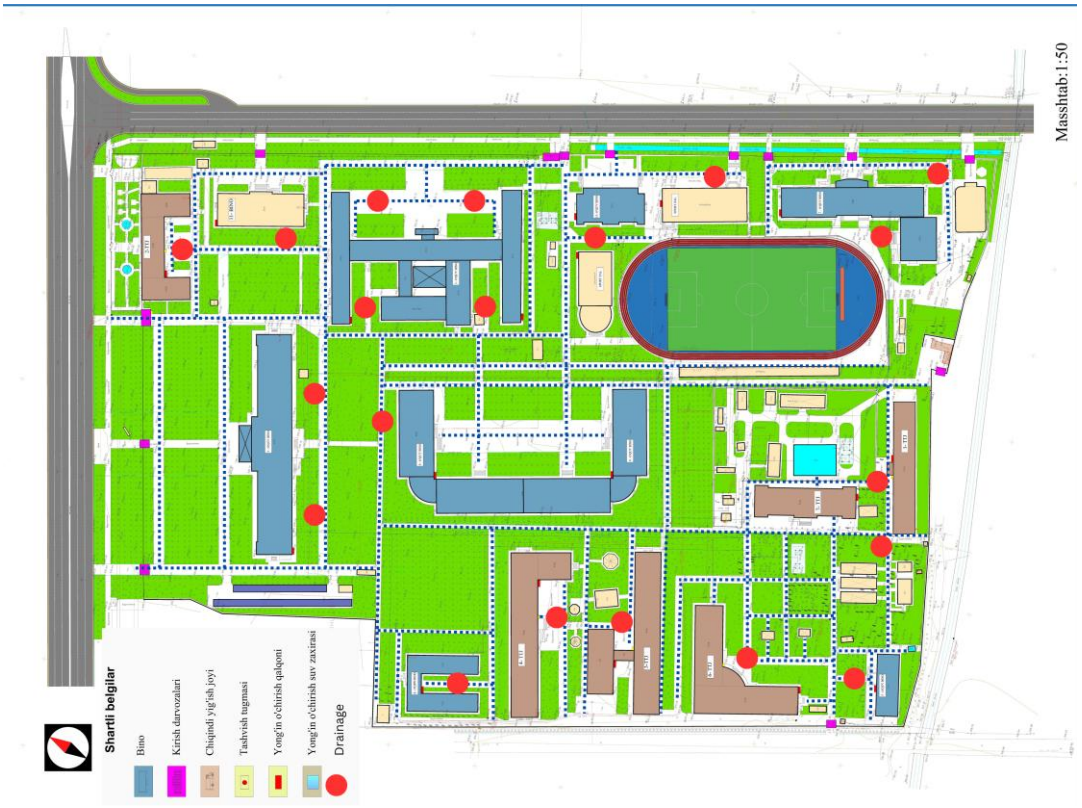


Figure 9. Campus water, drainage, sewerage and infrastructure map used for pollution-risk assessment.

Control area	Implemented measure	Impact
Domestic wastewater	Central collection through the campus sewerage system.	Prevents direct discharge to soil and surface drains.
Laboratory and chemical risk	Controlled storage, handling and monitoring of potentially polluting substances.	Reduces chemical contamination risk.
Canteen and organic load	Inspection of food-residue, oil and grease sources.	Supports BOD5/COD reduction and protects sewers.
Stormwater and sediment	Drainage-channel inspection and rainwater capture.	Reduces erosion, sediment and uncontrolled runoff.
Monitoring and reporting	Quarterly trend analysis and annual publication.	Creates accountability and evidence of programme operation.
Partnership	Coordination with Surkhandarya Water Supply JSC and regional authorities.	Connects campus controls with municipal treatment and regional protection.

Policy impact

Pollution prevention shifts the University's environmental policy from reactive clean-up to preventive control: mapped risks, defined responsibilities, scheduled inspections, monitoring parameters, documented corrective actions and public reporting.

6.6 Water Quality Monitoring Program

Water quality is monitored through physical and chemical parameters, with laboratory and field methods covering pH, BOD5, COD, TSS, nitrate and phosphate. The comparative series shows improvement in organic load, suspended solids and nutrients while pH remained stable.

Year	pH	BOD5 (mg/L)	COD (mg/L)	TSS (mg/L)	Nitrate (mg/L)	Phosphate (mg/L)	Interpretation
2023	7.58	191	371	163	25.4	6.8	Baseline trend year
2024	7.55	182	356	154	24.5	6.4	Previous-year baseline
2025	7.43	166	326	138	22.3	5.7	Improved management trend
2025 vs 2024	Stable	-8.8%	-8.4%	-10.4%	-9.0%	-10.9%	Lower pollution indicators

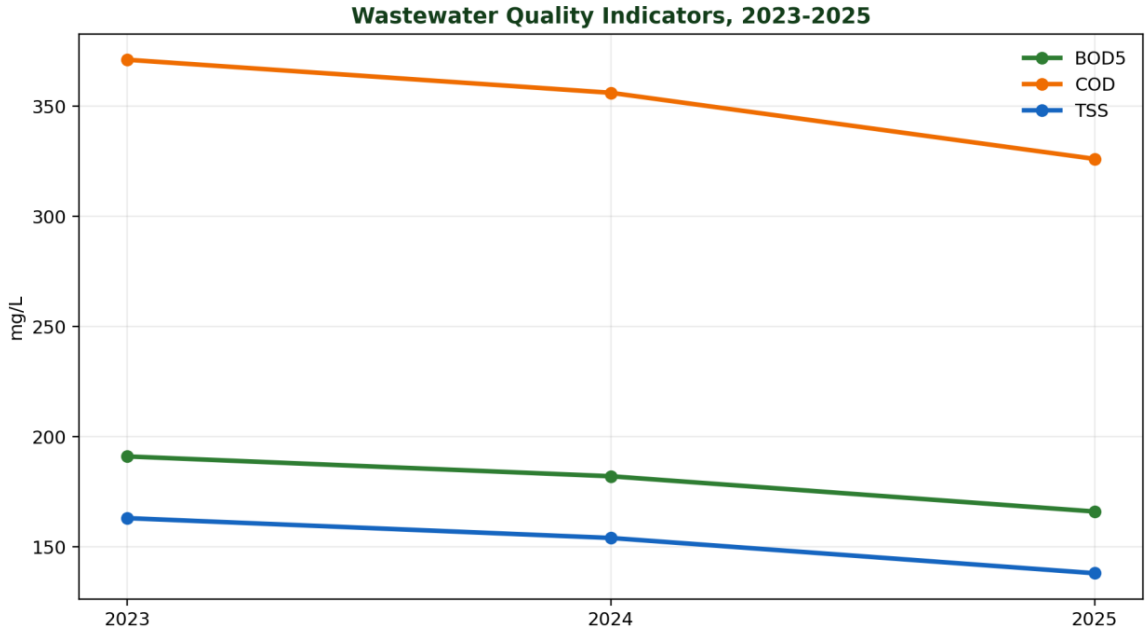


Figure 10. Multi-year trend in BOD5, COD and TSS.

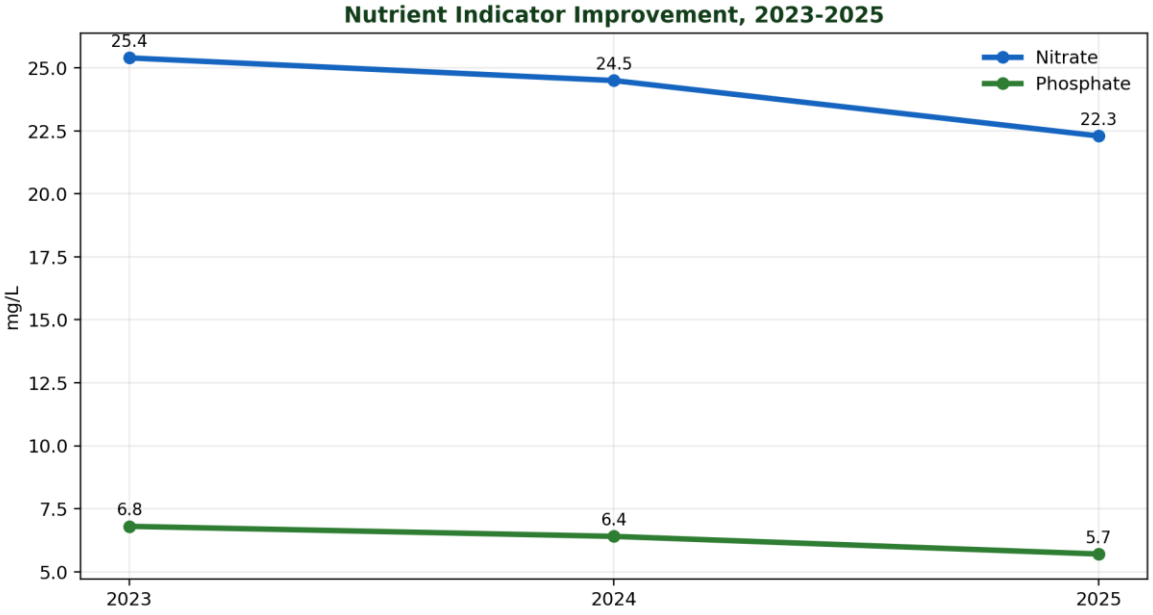


Figure 11. Multi-year nitrate and phosphate trend.

6.6.1 Monitoring cycle and evidence

Quarter	Monitoring focus	Evidence produced
Q1	Baseline sampling at sewer connections, rainwater outlets and irrigation points.	Sampling forms, laboratory worksheets and baseline table.
Q2	Dry-season inspection of demand, wastewater quality and irrigation reuse.	Quarterly comparison, photographs and corrective-action register.
Q3	High-use period review of dormitories, canteens, laboratories and green areas.	Trend graphs, meter extracts and inspection report.
Q4	Annual verification, year-on-year analysis and report preparation.	Annual Water Sustainability and Impact Report and website package.

Laboratory analysis supporting water-quality monitoring.

Field monitoring and environmental education activity.

On-site water-resource observation and sampling practice.

Student participation in field-based water monitoring.

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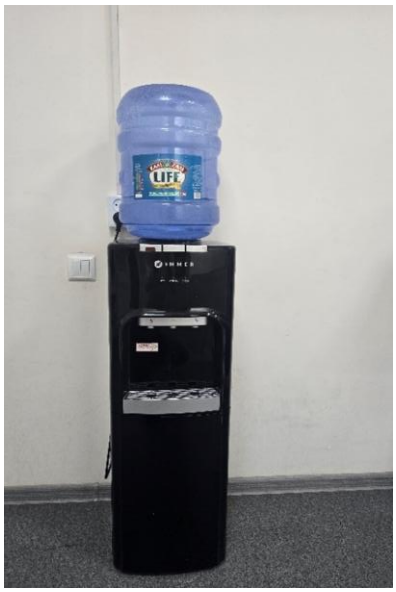
6.7 Safe Drinking Water and Treated Water Supply

The University combines connection to the city drinking-water network with packaged purified water supplied under a 2025 agreement with ZAM ZAM HAYOT LLC. The contract provides 300 containers per month, each containing 19 litres.

Indicator	2025 value	Impact
Packaged purified-water supply	68,400 litres/year (68.4 m³/year).	Hygienically controlled drinking water for students and staff.
Monthly delivery	300 × 19-litre containers.	Predictable supply and inventory planning.
Municipal connection	Active city drinking-water supply.	System resilience and full campus coverage.
Distribution	Canteens, internal dispensers and external drinking points.	Improved access, health and well-being.
Metering	Meters installed for consumption control.	Supports accountability and conservation.



Purified drinking-water dispenser.

External clean-water distribution point.

Water meter supporting consumption control.

Campus water-storage and distribution infrastructure.

6.8 ICT-Enabled Water Management

TerSU uses a staged ICT approach covering planning, implementation, monitoring and evaluation. AutoCAD and GIS support infrastructure planning; meters and sensor technologies support implementation; dashboard tools support real-time and periodic monitoring; and spreadsheet/BI tools support annual evaluation.

Stage	ICT tools and systems	2025 output	Impact
Planning	AutoCAD drawings, GIS, Google Sheets and resource plans.	Infrastructure map and annual resource plan.	Better identification of risks and investment priorities.
Implementation	Meters, sensors, IoT concepts, automated irrigation and control equipment.	Installed measurement and efficient-use equipment.	Improved operational control and leak/excess-use detection.
Monitoring	Online dashboard, mobile access, periodic statistics and log data.	Monthly, quarterly, semi-annual and annual summaries.	Faster management response and transparent performance tracking.
Evaluation	Excel, Power BI and annual impact analysis.	Annual report, trend graphs and SDG assessment.	Evidence-based target setting and accountability.

Figure 12. TerSU online water-management dashboard and visual performance indicators.

Digital impact

The electronic record links physical infrastructure to management decisions. It allows the University to compare monthly consumption, detect abnormal changes, archive laboratory data, maintain GIS layers and publish consolidated annual evidence.

7. BEFORE-AND-AFTER COMPARISON BY PROGRAMME

Programme	Before / baseline	After / 2025	Measured change	Positive impact

Programme	Before / baseline	After / 2025	Measured change	Positive impact
Water Conservation	53.80 thousand m³ annual withdrawal.	42.28 thousand m³.	-21.4%.	Lower demand, operating pressure and wastewater generation.
Rainwater Harvesting	72 m³ storage; 1.78 thousand m³ estimated reuse.	143 m³ storage; 2.86 thousand m³ estimated reuse.	+98.6% capacity; +60.7% reuse.	Greater dry-period resilience and potable-water substitution.
Water Recycling	93% treatment effectiveness.	96% treatment effectiveness.	+3 percentage points.	Residual fraction reduced from 3.56 to 1.69 thousand m³.
Efficient Appliances	387 efficient items; 67.1% category average.	514 efficient items; 84.3% category average.	+127 items; +17.2 points.	Lower fixture and irrigation demand.
Water Quality Monitoring	12 annual events; baseline pollution indicators.	24 annual events and lower BOD5/COD/TSS/nutrients.	Monitoring doubled; indicators fell 8-11%.	More reliable control and evidence.
Participation	612 attendance entries.	1,665 attendance entries.	+172.1%.	Stronger environmental culture and community reach.
ICT Reporting	Fragmented/manual records.	Dashboard, GIS and consolidated periodic reporting.	Integrated system established.	Improved transparency, response and annual evaluation.

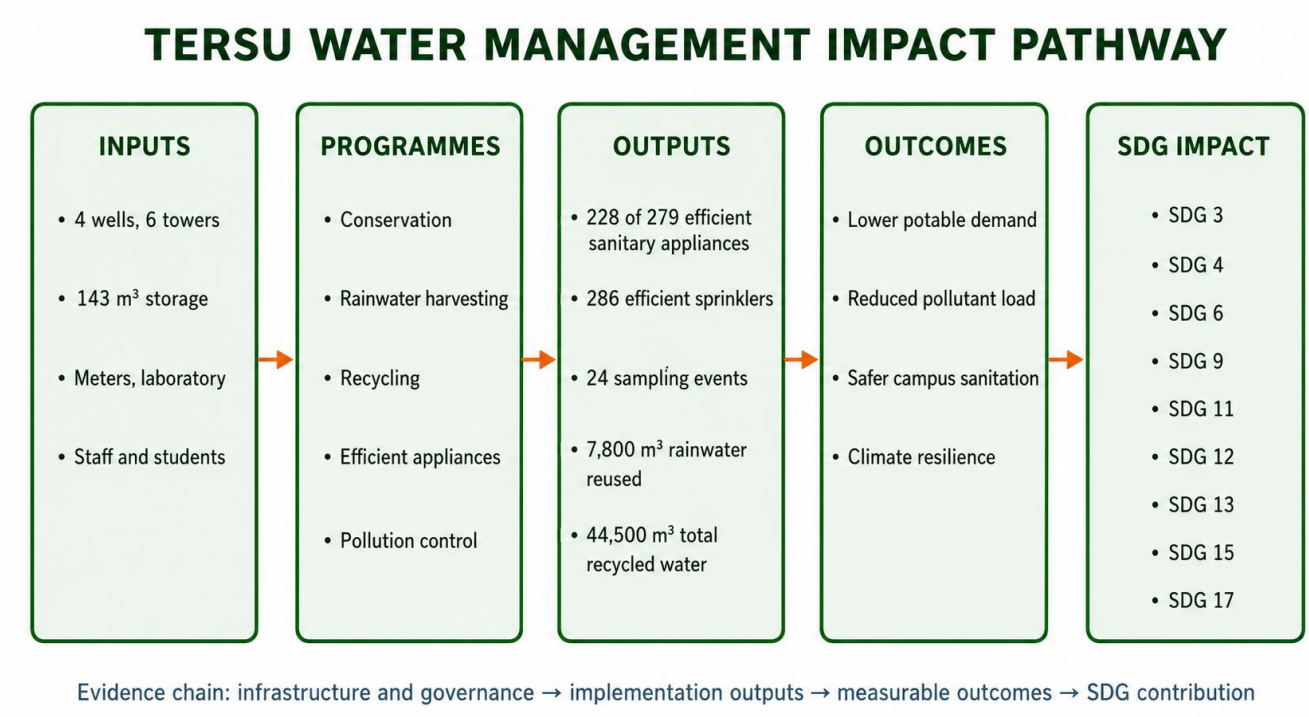


Figure 13. How before-and-after outputs produce operational, environmental and SDG outcomes.

8. STUDENT, STAFF AND COMMUNITY PARTICIPATION

Participation is assessed as attendance entries across seminars, campaigns, field monitoring, Green Week, laboratory demonstrations, community sessions and industry visits. Entries may include repeat participants across different activities; the measure represents programme reach and engagement volume.

Year	Student entries	Staff entries	Community entries	Total	Main participation result
2023	470	62	80	612	Initial awareness sessions and field activities.
2024	750	94	140	984	Expanded Green Week, water audits and

Year	Student entries	Staff entries	Community entries	Total	Main participation result
					outreach.
2025	1,260	165	240	1,665	Integrated campaigns, field monitoring, school/mahalla sessions and industry learning.

2025 participation register

Activity	Date / period	Students	Staff	Community	Main result
World Water Day seminar and campaign	March 2025	310	35	0	Awareness of water conservation, sanitation and SDG 6.
Green Week campus water audit	April 2025	420	48	0	Student-led inspection of taps, toilets, irrigation and drainage.
Mahalla clean-water and pollution-prevention session	May 2025	70	12	140	Shared household and community pollution-prevention practices.
School eco-club water workshop	June 2025	60	8	100	Practical learning on water saving and rainwater harvesting.
Water-quality field monitoring day	September 2025	250	27	0	Sampling, field observation and interpretation of indicators.
Industrial wastewater study visit	October 2025	150	35	0	Understanding of technical water, treatment and circular use.
Total attendance entries		1,260	165	240	1,665 entries across six principal activities.

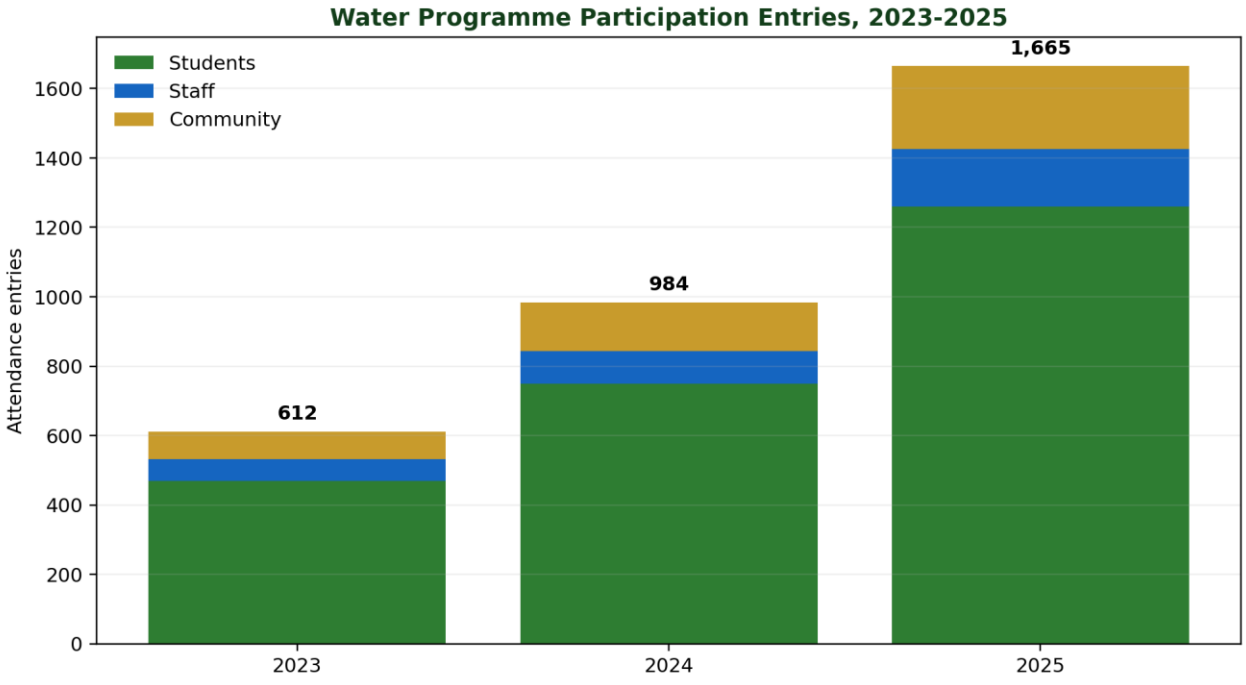


Figure 14. Programme participation growth by stakeholder group.

9. WATER SAVING CAMPAIGN, GREEN WEEK AND ENVIRONMENTAL EDUCATION

Campaign component	Output	Impact evidence

Campaign component	Output	Impact evidence
Water Saving Campaign	Seminars, posters, classroom messages and digital content.	Increased participation and recognition of low-flow practices.
Green Week water audit	Student and staff inspection of water points, drains and irrigation equipment.	Identified maintenance priorities and strengthened ownership.
Water-quality field education	Sampling demonstrations and interpretation of pH, BOD5, COD, TSS and nutrients.	Connected classroom learning with operational monitoring.
Laboratory and innovation demonstrations	Hydrogel, sorbent and water-treatment demonstrations.	Promoted applied science and water-saving innovation.
Industry learning visits	Observation of technical water and industrial wastewater systems.	Improved understanding of circular water management.

Water-programme planning and staff coordination.

Cross-departmental discussion of environmental and programme evidence.

Student water-awareness and field-learning activity.

Practical environmental education at a water-resource site.

Presentation of water-saving hydrogel innovation.

Laboratory/production process supporting environmental education.

10. COMMUNITY PARTNERSHIPS AND OUTREACH

The University's impact extends beyond campus through cooperation with regional authorities, municipal water institutions, schools, mahallas, industrial enterprises and academic partners. These partnerships connect campus practice with regional environmental protection and public education.

Partner / stakeholder	Activity	2025 impact
Surkhandarya Regional Administration	Joint attention to water bodies, green areas and environmental protection.	Aligned campus practice with regional ecological priorities.
Surkhandarya Water Supply JSC / Termez treatment system	Wastewater collection, treatment and technical-reuse chain.	Prevented direct discharge and connected campus wastewater to regulated treatment.
Local mahalla representatives	Clean-water, sanitation and pollution-prevention outreach.	140 community attendance entries and wider household awareness.
Local schools / eco-clubs	Water-saving and rainwater-harvesting workshops.	100 community/school attendance entries and early environmental education.
Industrial enterprises	Student and staff visits focused on technical water and treatment.	Practical workforce skills and university-industry knowledge exchange.
Academic partners	Research collaboration and laboratory exchange.	Strengthened methods, innovation and dissemination.

Community-oriented field observation and environmental learning.

Practical water-resource education with students and staff.

Industry visit focused on technical water and wastewater systems.

Laboratory cooperation supporting water-treatment knowledge exchange.

11. SCIENTIFIC RESEARCH AND INNOVATION SUPPORT

Research is presented as a supporting evidence stream rather than the main operational programme. It strengthens water-management impact by developing treatment materials, water-saving products, laboratory expertise and practical training.

Research / innovation	Output	Water-management impact
Project PZ-20170926176	Isolation of iodine and compounds from saline groundwater in Surkhandarya.	Improved understanding and beneficial use of complex groundwater resources.
Project FL-7923051854	New ultra- and nanofiltration membranes based on natural raw materials.	Supports advanced wastewater treatment and pollutant removal.
Highly absorbent ecohydrogel	Water-retaining copolymer technology.	35-40% irrigation-water saving; 15-20% plant-productivity improvement; 25-35% better fertilizer absorption.
PhD research on PVC-based sorbents	Sorbents for industrial wastewater treatment.	Supports removal of pollutants from industrial effluent.
Doctoral research on modified vermiculite sorbents	Sorption removal of Cu(II), Zn(II) and Ni(II).	Strengthens heavy-metal treatment capacity and laboratory competence.
Student field and industry practice	Monitoring, industrial visits and technical-water observation.	Builds practical skills and future professional capacity.

Ecohydrogel product developed for water-saving application.

Hydrogel applied to soil to retain irrigation water.

Water-composition study using laboratory methods and treatment materials.

Scientific and institutional cooperation supporting sustainable infrastructure.

Research and public-information links

Hydrogel television/public information: https://t.me/tvsurxon/17313

Hydrogel application information: https://t.me/terdu340/28759

PhD dissertation evidence: https://t.me/terdu340/10845

Doctoral sorbent research evidence: https://t.me/terdu340/31198

Water purification and recycling projects: https://t.me/terdu340/34060

Water purification and recycling video: https://youtu.be/RPmOC990TAQ

12. CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS

12.1 Programme-to-SDG matrix

Programme	SDG 3	SDG 6	SDG 9	SDG 11	SDG 12	SDG 13	SDG 15	SDG 17
Water Conservation	●	●	○	●	●	●	●	○
Rainwater Harvesting	○	●	○	●	●	●	●	○
Water Recycling	●	●	●	●	●	○	●	○
Efficient Appliances	●	●	●	●	●	●	○	○
Pollution Control	●	●	○	●	●	○	●	●
Water Quality Monitoring	●	●	●	●	●	○	●	○
Safe Drinking Water	●	●	○	●	●	○	○	○
ICT Management	○	●	●	●	●	●	○	●
Research and Outreach	●	●	●	●	●	●	●	●

Legend: ● direct/primary contribution; ○ supporting or enabling contribution.

12.2 Primary SDG impacts

	**SDG 6 - Clean Water and Sanitation**	Reduced water demand, safe drinking-water access, wastewater treatment, water-quality monitoring and pollution prevention.
	**SDG 11 - Sustainable Cities and Communities**	A safer, more resilient campus with mapped infrastructure, efficient services, drainage control and community engagement.
	**SDG 12 - Responsible Consumption and Production**	Efficient fixtures, metering, rainwater reuse, treated-water reuse and evidence-based resource management.
	**SDG 13 - Climate Action**	Reduced water demand, dry-period storage, efficient irrigation and drought-resilient landscaping.
	**SDG 15 - Life on Land**	Protection of soil and green areas, controlled wastewater, reduced pollution and improved irrigation practices.

13. CONTRIBUTION TO UNIVERSITY ENVIRONMENTAL POLICY

Policy objective	Programme contribution	2025 evidence	Institutional benefit
Resource efficiency	Conservation, efficient appliances, rainwater harvesting and metering.	21.4% lower withdrawal; 514 efficient devices; 143 m^3 storage.	Lower resource demand and clearer operational accountability.
Pollution prevention	Central sewerage, wastewater treatment, inspections, mapping and monitoring.	42.28 thousand m^3 conveyed to treatment; lower BOD5/COD/TSS/nutrients.	Reduced environmental and sanitary risk.
Circular economy	Rainwater reuse and treated-water technical reuse.	2.86 thousand m^3 estimated rainwater reuse; 40.59 thousand m^3 treated output.	Substitution of potable water and beneficial reuse.
Climate resilience	Storage, efficient irrigation and drought-resilient research.	Storage capacity nearly doubled; hydrogel saves 35-40% irrigation water.	Improved capacity to maintain green areas in a water-scarce region.
Education and culture	Campaigns, Green Week, field monitoring and community outreach.	1,665 participation entries.	Environmental literacy and shared responsibility.
Evidence and transparency	ICT dashboard, GIS, monitoring reports and annual publication.	Monthly/quarterly summaries and annual impact report.	Better management decisions and GreenMetric verification.
Research and innovation	Membranes, sorbents, hydrogels and practical training.	Named projects, doctoral outputs and applied demonstrations.	Regional knowledge transfer and institutional leadership.

Environmental outcome assessment

- Water-body and soil protection improved because wastewater is collected and directed to regulated treatment rather than discharged directly.

- Campus sanitation improved through reliable drinking-water supply, centralized sewerage and routine monitoring.
- Green-area resilience improved through rainwater storage, efficient irrigation and water-retention research.
- Resource-efficiency culture strengthened through staff/student campaigns, field practice and public reporting.
- Governance improved because data, maps, responsibilities and annual results are consolidated into a single evidence system.

Policy conclusion

The water-management programmes operationalize the University's 2025-2027 development strategy by converting environmental commitments into measurable annual indicators, responsible departments, monitoring cycles, photographs, public links and improvement targets.

14. WEBSITE PUBLICATION PACKAGE AND EVIDENCE LINKS

14.1 Website-ready page content

Recommended page title

Termez State University Water Management Impact and SDG Contribution - Annual Report 2025

Termez State University has published its 2025 Water Sustainability and Impact Report, presenting the measurable outcomes of the University's water conservation, rainwater harvesting, water recycling, efficient-appliance, pollution-control, water-quality monitoring and digital-management programmes. In 2025, annual water withdrawal was 42.28 thousand m^3, 514 water-efficient devices were recorded, rainwater-storage capacity reached 143 m^3, approximately 42.28 thousand m^3 of wastewater was conveyed to regulated treatment, and water-programme activities generated 1,665 participation entries. The programmes directly support SDGs 6, 11, 12, 13 and 15 and contribute to health, education, innovation and partnerships.

14.2 Publication register

Item	Publication / evidence location	Content
University official website	https://www.tersu.uz/	Primary institutional publication channel.
University development strategy	https://tersu.uz/struct/view/1000159	Strategy context for water conservation, recycling and environmental management.
Additional strategy / policy page	https://tersu.uz/struct/view/1000444	Resource-conservation and green-policy evidence referenced in the pollution-control file.
Water research and project evidence	https://t.me/terdu340/34060	Public information on water purification and recycling projects.
Water project video	https://youtu.be/RPmOC990TAQ	Video evidence on purification/recycling work.
Hydrogel research	https://t.me/tvsurxon/17313	Public evidence of water-saving hydrogel innovation.
Hydrogel application	https://t.me/terdu340/28759	Water-saving and agricultural application evidence.
PhD wastewater sorbent research	https://t.me/terdu340/10845	Doctoral research evidence.

Item	Publication / evidence location	Content
Doctoral heavy-metal sorbent research	https://t.me/terdu340/31198	Research on Cu, Zn and Ni removal from industrial wastewater.

14.3 Documents to publish together

- Water Management Annual Report 2025 (this document).
- Water Conservation, Recycling, Efficient Appliances, Treated Water, Pollution Control, ICT and SDG evidence files.
- Campus Water Quality Monitoring Report and laboratory-analysis annexes.
- GIS/campus infrastructure maps and wastewater-flow diagrams.
- Water Saving Campaign, Green Week, policy, rectoral directive, SOPs, photographs and video links.

15. 2026 IMPROVEMENT TARGETS

Indicator	2025 result	2026 target	Planned action
Annual water withdrawal	42.28 thousand m³	≤ 40.2 thousand m³	5% reduction through fixture replacement, leak control and irrigation scheduling.
Rainwater storage	143 m³	≥ 168 m³	Install at least 25 m³ additional storage at a priority campus.
Estimated rainwater reuse	2.86 thousand m³	≥ 3.30 thousand m³	Increase effective storage turnovers and meter harvested-water use.
Weighted efficient-device coverage	91.0%	≥ 94%	Replace at least 17 inefficient bathroom/toilet items.
Category-average coverage	84.3%	≥ 88%	Prioritize the bathroom category.
Water-quality monitoring events	24	≥ 30	Increase targeted sampling at high-risk and reuse points.
Participation entries	1,665	≥ 1,800	Expand school, mahalla, dormitory and staff campaigns.
Digital reporting	Monthly and annual dashboard/reporting	100% monthly data completeness	Automate meter and laboratory-data import where feasible.
Website evidence	Consolidated publication package	Quarterly updates plus annual report	Publish trend graphs, event evidence and downloadable reports.

2026 priority actions

- Complete replacement of the remaining 22 non-efficient bathroom units in phases.
- Install additional meters on rainwater outlets and high-consumption buildings.
- Integrate water-quality laboratory results into the electronic database and dashboard.
- Expand GIS mapping to include all inspection chambers, monitoring points and pollution-risk locations.
- Formalize annual school/mahalla outreach with signed attendance lists and photo evidence.
- Publish each quarterly monitoring summary on the official website.

16. REVIEWER EVIDENCE SUMMARY

GreenMetric reviewer focus	Evidence provided in this report

GreenMetric reviewer focus	Evidence provided in this report
Clear list of programmes	Eight consolidated programmes with purposes, responsible units and KPIs.
Programme-specific achievements	Tables for conservation, harvesting, recycling, appliances, pollution control, monitoring, drinking water and ICT.
Quantified impact	Water saved, reused, treated, irrigated area, devices, monitoring events and participation.
Multi-year comparison	2023-2025 statistical series, before-after tables and trend graphs.
Real environmental impact	Reduced withdrawal and pollution indicators; increased storage, treatment effectiveness and efficient coverage.
University and social impact	Safe water, sanitation, practical education, 1,665 participation entries and community outreach.
SDG contribution	Programme-to-SDG matrix and primary impact statements for SDGs 6, 11, 12, 13 and 15.
Scientific support	Selected projects, dissertations, hydrogels, membranes and sorbents without displacing the operational evidence.
Photographic evidence	Treatment plant, towers, reservoirs, irrigation, monitoring, laboratory, campaigns, outreach and industry learning.
Public disclosure	Website-ready content and consolidated link register.

Executive conclusion

TerSU's 2025 water-management programmes produced a coherent set of operational and environmental outcomes: annual water demand declined, rainwater capacity and reuse increased, efficient-equipment coverage expanded, wastewater was safely conveyed to treatment, water-quality indicators improved, and engagement broadened across students, staff and the community. The programme therefore contributes directly to clean water and sanitation and provides measurable supporting benefits for sustainable communities, responsible consumption, climate action and life on land.

GreenMetric evidence statement

The core evidence is not a list of activities. It is the documented chain from programme implementation to numerical output, year-on-year change, environmental outcome, stakeholder benefit, photographic proof, public information and SDG contribution.

ANNEX A. PHOTO AND VIDEO EVIDENCE REGISTER

Evidence category	Included evidence	Reference / link
Rainwater harvesting system	Reservoir and covered storage photographs; storage-capacity table.	Figures and photos in Section 6.2.
Water recycling activities	Treatment-plant photograph and three-stage treatment table.	Section 6.3; https://youtu.be/RPmOC990TAQ
Water quality monitoring	Laboratory and field-monitoring photographs; indicator tables and graphs.	Section 6.6.
Student awareness campaigns	Field activities, meetings and campaign photographs.	Sections 8 and 9.
Community outreach activities	Field-learning and partnership photographs; participation register.	Section 10.
Green campus irrigation	Sprinkler photographs and rainwater-impact data.	Sections 6.2 and 6.4.
Water-efficient appliances	Sprinkler, meter and drinking-water equipment photographs.	Section 6.4.
Environmental education events	Hydrogel demonstrations, field observation and industry visits.	Sections 9 and 11.
Research and innovation video	Water purification/recycling and hydrogel evidence.	https://t.me/terdu340/34060; https://t.me/tvsurxon/17313

Field-based environmental education.

Laboratory cooperation and analysis.

Programme coordination and awareness planning.

Industrial wastewater learning activity.

ANNEX B. ADDITIONAL OFFICIAL PHOTO EVIDENCE SPACES

ANNEX B. ADDITIONAL OFFICIAL PHOTO EVIDENCE SPACES (CONTINUED)

ANNEX C. OFFICIAL SUPPORTING DOCUMENTS

ANNEX C. OFFICIAL SUPPORTING DOCUMENTS (CONTINUED)

https://sdg.tersu.uz/news/view/495?sdg=6

https://sdg.tersu.uz/news/view/599?sdg=6

https://sdg.tersu.uz/news/view/92?sdg=6

Signed by the Rector:
Nurillo Khursandov
Vice-Rector for Finance and Econ

Agreed by:
Gafur Togaev
Vice-Rector for International Relations