Waste water treatment facilities available in the university

SR University (SRU)has developed a comprehensive **wastewater recycling and reuse system** as part of its commitment to sustainable water resource management. The university operates **Reed bed/Sewage Treatment Plant** with a treatment capacity of **1,000 KLD**, designed to handle wastewater from hostels, academic buildings, canteens, and residential quarters.

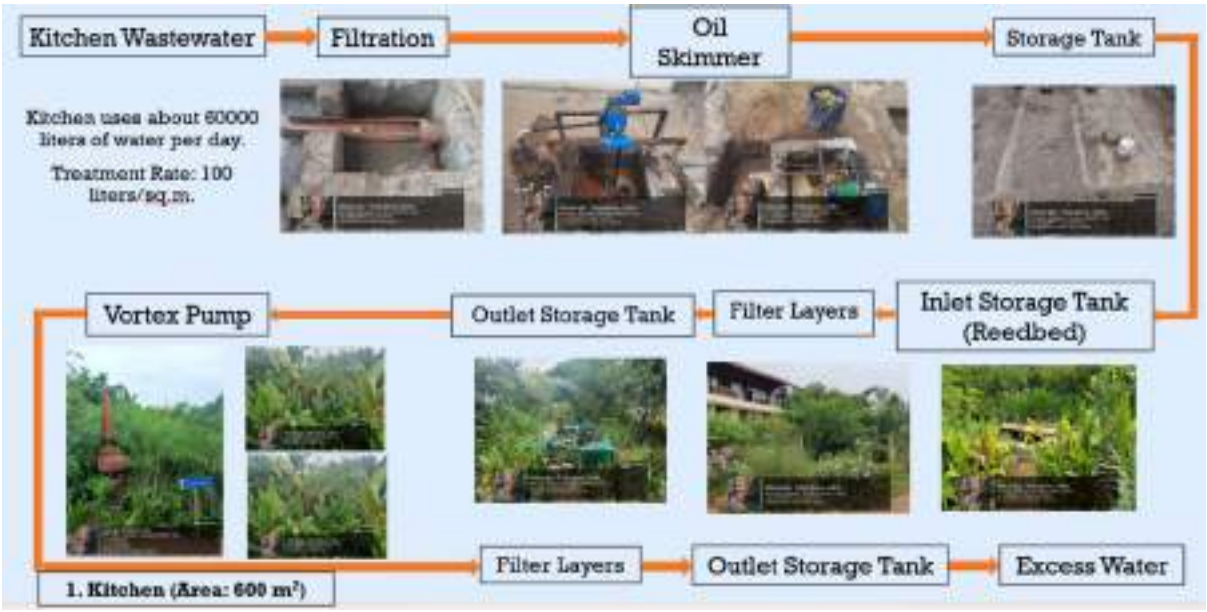
All wastewater is collected through a **closed and well-planned drainage network** and routed to the STP for treatment using biological and secondary purification processes. The treated effluent meets the prescribed quality standards and is **reused for gardening, landscaping, sprinklers, greenbelt maintenance**, thereby reducing the dependence on fresh groundwater by more than **50%**.

SRU's **treated water distribution network** is integrated with flow meters and monitoring controls to ensure optimal utilization. The **sludge generated during the treatment process** is composted and transformed into organic manure, which is then used in maintaining the lush greenery and the university's biodiversity park, promoting a **zero-waste circular model**.

Water quality is tested regularly at in-house laboratories to ensure compliance with environmental norms. The entire system is supervised by the sustainability team, which periodically reviews efficiency and identifies scope for improvement.

Through this initiative, SR University not only minimizes environmental impact but also demonstrates a **sustainable, self-reliant model of water management** that integrates **technology, policy, and community engagement.** The program aligns closely with the university's vision of environmental stewardship and the **United Nations SDG 6 (Clean Water and Sanitation)**.

No.	Recycling Program / Facility	Objective / Description
1	Reedbed / Sewage Treatment Plant	Treat wastewater generated from hostels, canteens, academic and residential areas
2	Treated Water Reuse	Reuse of treated water for irrigation of lawns, gardens, and green belts
3	Sludge Composting & Reuse	Conversion of sludge into compost for horticultural use
4	Water Quality Testing	Regular testing to ensure reuse safety standards
5	Awareness and Policy	Promote sustainable reuse and reduce freshwater dependency



Flow of waste water recycling process

Watering plants from treated water

Waste water intake pits

Reed bed system for sewage treatment

Sewage treatment

Water conservation and pollution prevention programs in the university

SR University (SRU) has established a comprehensive and multi-layered Water Pollution Prevention and Management Program, reflecting its firm commitment to environmental protection, sustainability, and responsible resource stewardship. The program integrates modern treatment systems, preventive engineering measures, traditional ecological practices, and ICT-enabled monitoring tools to ensure that all water entering, used within, or leaving the campus remains safe and non-polluting.

1. Prevention of Contamination Through Rainwater Harvesting and Filtration Systems

To safeguard natural water bodies and groundwater from contamination, SRU has developed rainwater harvesting pits equipped with multi-layer natural filtration units made of sand, gravel, and pebbles. These filtration layers remove sediments, debris, and initial pollutants from rooftop and surface runoff before allowing percolation. By preventing untreated runoff from flowing into drains or nearby ecosystems, the system significantly reduces risks of chemical, plastic, and soil pollution during monsoon seasons.

2. Pollution-Free Open Well Recharge Mechanisms

SRU's open well recharge structures are designed not just for water conservation but also for pollution prevention. The contoured channels that direct runoff to wells are engineered to avoid accumulation of contaminants. Silt traps and vegetative buffer zones filter pollutants before water reaches the wells. These systems maintain a clean aquifer, ensuring that natural groundwater is replenished without chemical or microbial contamination.

3. Pollution Control Through Tanks, Bunds, and Surface Water Management

The bunds, canals, and underground tanks across the campus act as pollution buffers by capturing runoff, preventing soil erosion, and reducing the transport of pollutants into the groundwater. The controlled flow pathways ensure that wastewater, oils, chemicals, or sediments do not mix with clean rainwater. These systems also support vegetation that naturally absorbs excess nutrients, preventing eutrophication in local water bodies.

4. Wastewater Treatment, Recycling, and Zero-Liquid-Discharge Approach

At the core of SRU's pollution prevention system is a 1,000 KLD Sewage Treatment Plant (STP) that ensures no untreated wastewater enters the environment. Wastewater from hostels, kitchens, and

laboratories undergoes biological, secondary, and tertiary purification to remove organic load, pathogens, and chemical impurities. The treated water, meeting prescribed environmental standards, is reused for landscaping and gardening, ensuring near-zero discharge outside the campus.Additionally, STP sludge is stabilized and converted into compost, preventing sludge dumping and minimizing soil and water contamination.

5. Safe and Pollution-Free Integrated Water Distribution Network

SRU operates a digitally mapped and controlled water distribution system that includes RO purification units, storage tanks, and separate pipelines for potable and recycled water. This separation prevents cross-contamination. Flow meters and sensors continuously monitor leakages, preventing stagnation or mixing of wastewater with freshwater channels. The safe disposal of RO reject water is managed through controlled pathways to avoid salinity buildup in the soil.

6. ICT-Enabled Monitoring and Strong Policy Framework

The University uses ERP-based systems to monitor water quality and usage parameters. Regular audits help detect contamination risks early. SRU's Water Conservation and Pollution Prevention Policy mandates routine quality testing, pipeline maintenance, emergency protocols for chemical spills, and strict guidelines for laboratory wastewater handling. Plans to deploy IoT sensors will provide real-time data on water turbidity, pH, dissolved solids, and leakage, enabling proactive pollution mitigation.

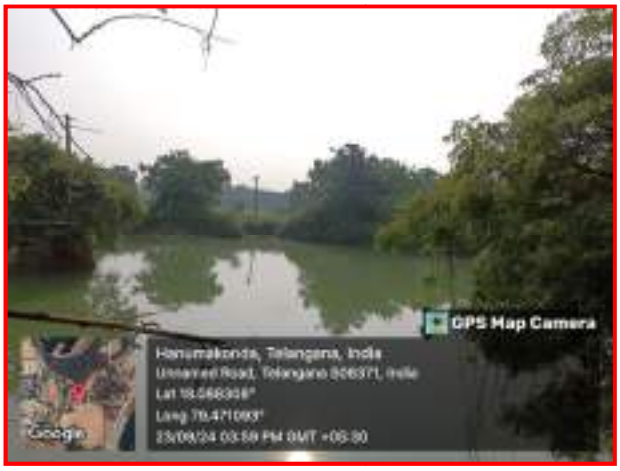
7. Awareness, Training, and Community Participation for Pollution Prevention

Recognizing that pollution prevention begins with behaviour, SRU conducts workshops, campaigns, and LMS-based training on safe water practices. Students and staff are educated on avoiding chemical misuse, preventing littering in water-prone zones, and reporting pollution hotspots. Events like World Water Day host student exhibitions on water pollution control technologies, instilling a culture of environmental responsibility.

Open Well Recharge near the Security Check Post

Open Well Recharge

Rain water harvesting pits located in university campus



Rain water bund

Underground water tank

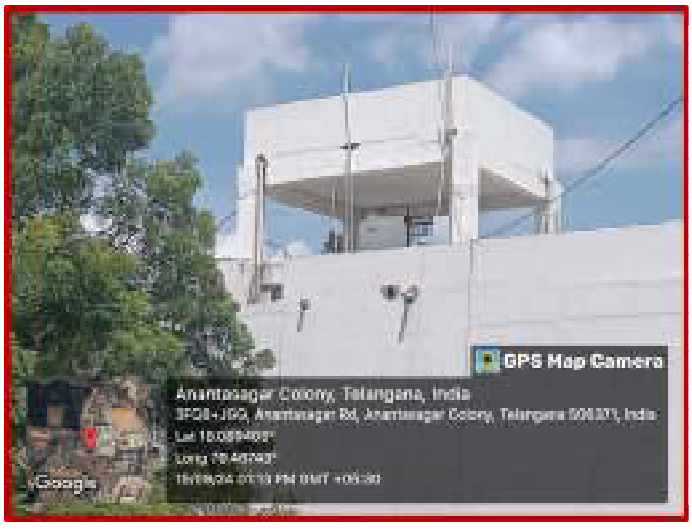
Rain water surface canal towards water bund

Waste water intake pit

Sewage treated water

Rain water canals

RO water system



Overhead tanks

Free drinking water provisionals in the university

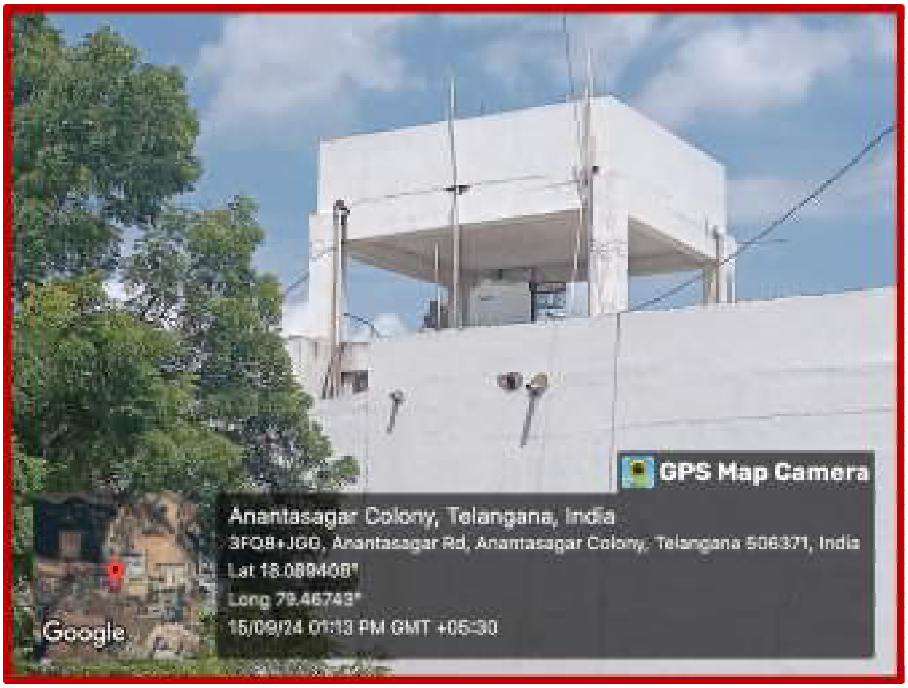
SR University ensures equitable and safe access to drinking water for all students, faculty, staff, and visitors through a well-planned and campus-wide free drinking water system. Multiple purified water dispensing points are installed across academic blocks, laboratories, administrative spaces, hostels, sports areas, and public gathering zones to make clean water readily available at all times.

The drinking water supply is supported by **RO-based purification systems** and **UV sterilization units** that ensure the removal of suspended particles, chemical impurities, and pathogens. Regular water quality testing is conducted as per institutional protocols to ensure compliance with health and safety standards. Storage tanks are cleaned periodically, and the distribution pipelines are maintained under a preventive servicing schedule to avoid any contamination or leakage.

To encourage responsible water usage, students and staff are motivated to use personal reusable bottles, reducing plastic waste and supporting SRU's sustainability commitments. The free drinking water initiative reflects the University's focus on health, accessibility, and environmental stewardship while aligning with Sustainable Development Goal 6: **Clean Water and Sanitation**.

Utilization of treated rain water for drinking purpose

Underground water tank



Overhead tanks

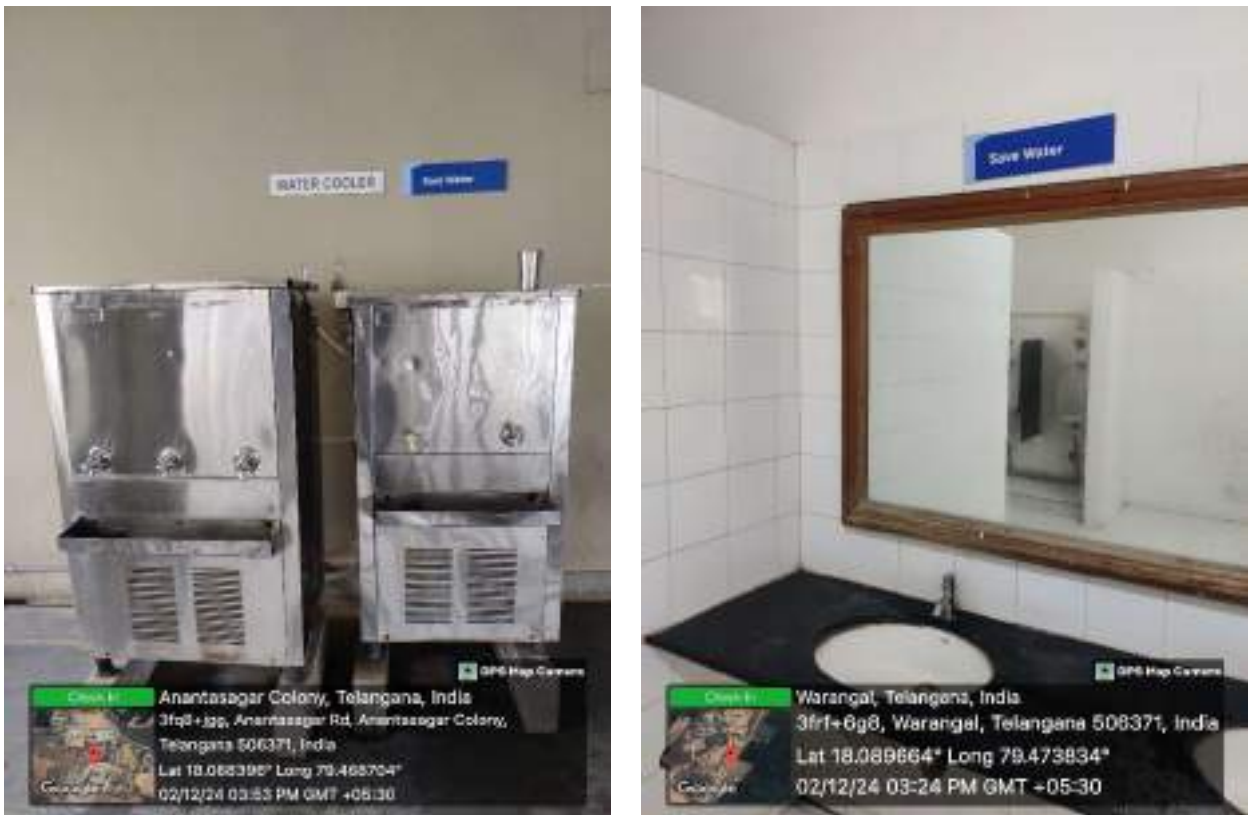
Fresh water dispensary units

Water conscious building standards

SR University places a strong emphasis on sustainable water management through the widespread adoption of **water-efficient appliances and fixtures**. More than 70% oftaps, toilets, and wash fixtures across the campus are now water-efficient, significantly reducing overall water consumption. **Sensor-based handwash** taps are installed in academic buildings and laboratories, automatically regulating water flow to prevent wastage. **Dual-flush toilets** in hostels and administrative buildings enable optimized water use per flush, while **aerators (bubble taps)** in cafeterias and public restrooms blend air with water to reduce the flow rate without compromising comfort or hygiene. The university has also implemented **sensor-based overhead tank overflow control systems** to automatically regulate water levels and prevent wastage due to overflow. These IoT-enabled systems ensure optimal water storage management and further enhance the campus's overall water-use efficiency.

These installations are strategically implemented across all high-usage zones, and their performance is periodically monitored by the sustainability team. The maintenance team ensures that all future infrastructure follows water-saving design standards. This transition to automated, low-flow fixtures has resulted in an estimated 25% reduction in total freshwater consumption compared to previous years.

Aligned with SR University's mission of sustainability and innovation, the initiative reflects a strong commitment to the **UN SDGs (SDG 6 – Clean Water and Sanitation)** and exemplifies environmentally responsible campus design.



Save Water Boards

Sensor based Water tank Overflow Alarm

Sensor based Water Tap

Water conscious planting

SR University follows a water-conscious plantation approach that emphasizes the use of hardy, climate-resilient native species to maintain greenery while minimizing long-term irrigation needs. A key part of this approach is the extensive presence of Neem (Azadirachta indica) across the campus landscape.

Neem is well-suited to the region's semi-arid climate and thrives with minimal watering. Its deep rooting system supports soil health, improves natural groundwater recharge, and helps prevent erosion. In addition to conserving water, Neem contributes to a healthier campus environment by providing shade, improving air quality, and supporting ecological balance through its natural antimicrobial and pest-resistant properties.

Through the thoughtful selection of plantation species like Neem, SR University demonstrates a sustainable, low-water landscape model aligned with environmental stewardship and long-term resource conservation goals.

	
Neem Trees near Block - I	Neem Trees near Block - II
	
Campus Greenary	Campus Greenary
	
Medicinal and Aromatic Plants	Landscaping
	
Biodiversity Park (175 Varieties)	Planted Vegetation

Sustainable water extraction on campus

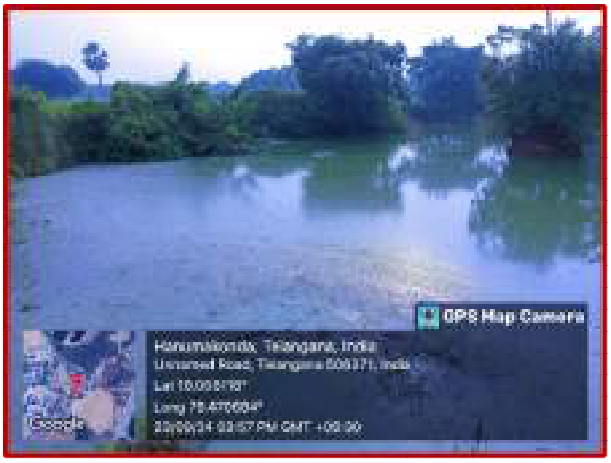
SR University (SRU) has established a comprehensive sustainable water extraction program that reflects its strong commitment to environmental sustainability and resource efficiency. The program integrates modern engineering systems, traditional wisdom, and ICT-based monitoring tools to ensure long-term water security and eco-balance on campus.

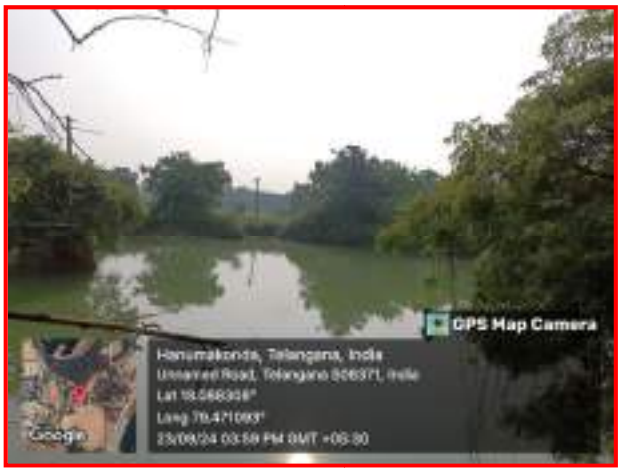
1. Rainwater Harvesting and Recharge Structures: To reduce dependency on groundwater and optimize rainwater utilization, SRU has installed a network of **rainwater harvesting pits** strategically located near academic blocks, hostels, and open areas. Each pit includes a natural filtration assembly of gravel, sand, and pebbles to remove impurities before percolation. These structures capture rooftop and surface runoff, recharge aquifers, and prevent waterlogging. Periodic maintenance and desilting ensure consistent recharge efficiency. This initiative contributes significantly to **groundwater rejuvenation** and helps mitigate the risk of urban flooding during monsoon seasons.

2. Open Well Recharge System: The University is situated in a semi-arid region but benefits from an underlying water table that remains stable due to sustained recharge mechanisms. SRU's **open well recharge system** directs surface runoff from across the campus toward open wells through gently contoured channels. These wells not only meet the university's daily water needs but also serve as recharge points during rainfall, facilitating **natural aquifer replenishment**. This dual-use system highlights SRU's emphasis on closed-loop water circulation and local ecosystem preservation.

3. Tanks, Bunds, and Surface Water Management: SR University has constructed **bunds, underground tanks, and surface runoff canals** to maximize rainwater capture and storage. Bunds positioned at strategic gradients retain water, enhance soil moisture, and support vegetation growth. The **underground water tanks and canals** help direct and store runoff for secondary usage in sanitation and irrigation. These infrastructures moderate microclimatic conditions, increase humidity, and contribute to a cooler, greener campus environment.

4. Wastewater Recycling and Reuse: A central pillar of SRU's water sustainability program is its **wastewater recycling infrastructure**, comprising **Sewage Treatment Plant** with a capacity of nearly **1,000 KLD**. The wastewater from hostels, cafeterias, and academic buildings is treated through biological and secondary purification stages, ensuring that the recycled water meets quality standards. The treated water is reused for **landscaping, gardening, and green belt irrigation**, fulfilling nearly **20% of the campus's total water demand.** Additionally, the sludge by-product is composted and used as organic fertilizer, promoting a **circular water-waste resource model.**





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