



GITAM: GANDHI INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(Deemed to be University u/s 3 of the UGC Act, 1956)

A Category – I Deemed to be University

Visakhapatnam | Hyderabad | Bengaluru

**The Policy for
Water Conservation and Reuse**

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1 Introduction

Water is the fundamental source of sustenance for humanity. Living organisms rely on water for a wide array of activities, including agriculture, industrial processes, and domestic needs such as bathing, washing, and drinking. Regrettably, the accessibility to safe freshwater has become increasingly challenging in recent times. Across the globe, the availability of water is under threat due to factors such as population growth, shifts in climate patterns, and alterations in land and water use. Human activities, such as deforestation, urbanization, and the ensuing reduction in groundwater recharge, overexploitation of groundwater reserves, seawater intrusion, and the contamination of surface water sources by untreated industrial and municipal wastewater, also disrupt the natural water cycle. It is evident that water resources are becoming scarce in many regions worldwide, with a pronounced impact on developing nations like India.

Water-related challenges in India primarily stem from the spatial and temporal fluctuations in water resources, resulting in reduced water availability even for the current population. These challenges encompass the depletion of both surface and groundwater reserves and the pervasive pollution of water bodies. Projections indicate that by 2030, the annual water demand will substantially exceed the available supply, with an estimated deficit of around 50% between the two. To confront the existing and anticipated water shortages, water resource planners are actively exploring alternative sources to augment the limited freshwater reserves on a global scale. Among these alternative management strategies, the reuse of treated waste water often referred to as recycling or reclamation, stands out as a viable solution.

2 The Concept of Wastewater Reuse:

Waste water, often considered a burgeoning resource, requires efficient management and utilization. Water reuse stands as a compelling alternative to current water sources, providing a means to enhance water security, sustainability, and resilience. The reuse of treated wastewater has gained prominence as an environmentally responsible solution, benefiting numerous global communities by

effectively managing wastewater and bolstering their water resources. Water reuse offers a range of advantages, including:

Augmentation of Existing Sources: It supplements and complements available water supplies.

- *Environmentally Friendly:* It aligns with ecological principles, reducing environmental impact.
- *Dependable and Assured Source:* It offers a reliable and consistent water supply.
- *Revenue Generation:* It opens avenues for generating income and optimizing resource usage.
- *Resource Recovery and Energy Savings:* It facilitates the retrieval of valuable resources and conserves energy.
- *Enhanced Quality of Life:* It contributes to urban improvement, fostering well-being and health, exemplified by the creation of urban parks and fountains.

3 University Policy

3.1 Comprehensive Sewage Collection:

Our foremost objective is to ensure that sewage from every building in the designated area is efficiently collected and channeled. We are committed to establishing a well-connected network that leaves no building unlinked. Achieving 100% coverage is our initial step towards ensuring proper sewage disposal and treatment.

3.2 Adherence to Water Quality Standards:

Following efficient collection, our next priority is to treat all gathered sewage in strict accordance with the environmental standards outlined by regulatory bodies like the Central Pollution Control Board (CPCB) and the Ministry of Environment and Forests (MOEF). This stringent treatment process ensures that the resulting wastewater complies with the necessary quality criteria, thus safeguarding both the environment and public health.

3.3 Sustainable Wastewater Reuse:

Treated wastewater doesn't go to waste. Instead, it finds purpose in various non-potable applications, including landscape irrigation, park maintenance, toilet flushing, fire-fighting, and construction activities. This approach not only conserves valuable freshwater resources but also reduces the environmental impact associated with wastewater discharge.

3.4 Enhanced Water Sustainability:

Looking to the future, we aspire to meet a significant portion of the university's water demand with recycled water and rainwater by 2025. Our objective is to reduce dependence on conventional water sources and bolster water sustainability by harnessing alternative resources. This initiative aligns with our commitment to creating a self-reliant and environmentally responsible campus.

4 Purpose and context

GITAM's primary goal is to optimize the collection, treatment, and sustainable

reutilization of sewage water originating within the university's continually expanding campus. As the university's population continues to grow, the water demands of various stakeholders are on the rise. This ongoing trend requires a proactive strategy to alleviate the strain on conventional freshwater resources. Through the efficient collection, treatment, and subsequent eco-friendly reuse of sewage water, the university aims to tackle these challenges.

The escalating demand for water, primarily driven by the increasing number of students, faculty, staff, and visitors, exerts significant pressure on the availability of clean and potable water. To address this mounting pressure, the university is fully committed to diminishing its reliance on traditional freshwater sources. Instead, our focus is on recycling and repurposing wastewater after thorough treatment. This approach not only conserves invaluable freshwater but also aligns with our broader objectives of promoting environmental responsibility and sustainable water management. It's a strategic initiative aimed at ensuring the university can fulfill the water requirements of its community while concurrently preserving and potentially enhancing the local environment's overall well-being.

4.1 Scope

1. The Policy covers non-potable reuse of used water.
2. Planning, design and commissioning of STP projects

5 Definitions

Safe Reuse of Treated Water (SRTW): The beneficial and safe use of treated used water for a range of purposes.

Sewage Treatment Plant (STP): Equipment and structures that treats sewage.

Treated Used Water (TUW): The treatment of used water for non-potable purposes through one or more of a number of primary, secondary and tertiary processes.

Used Water: A combination of one or more of: a) domestic effluent consisting of black water (excreta, urine and faecal sludge) and grey water (kitchen and bathing used water); b) water from hospitals.

6 Expected contribution:

- **Water security** – by replacing the use of freshwater with TUW for the purposes of landscaping, parks, flushing of toilets provides water security thereby reducing pressure on surface and ground water resources.
- **Health benefits – cessation of** contamination and pollution of water bodies results in better health.
- **Environmental benefits** –reducing the pollution of ground water by human waste and contamination of surface water bodies contributes for good environment.

7 Responsibility

- To be Proactive engagement in SRTW initiatives
- Commitment to adoption of best practice Contribution to monitoring programs and open reporting of SRTW.
- Frequency: Review for 5 years

8 Related documents

- National Policy on Safe Reuse of Treated Water First Draft: 12 October 2020
- Central and State Governments Policies and Regulations
