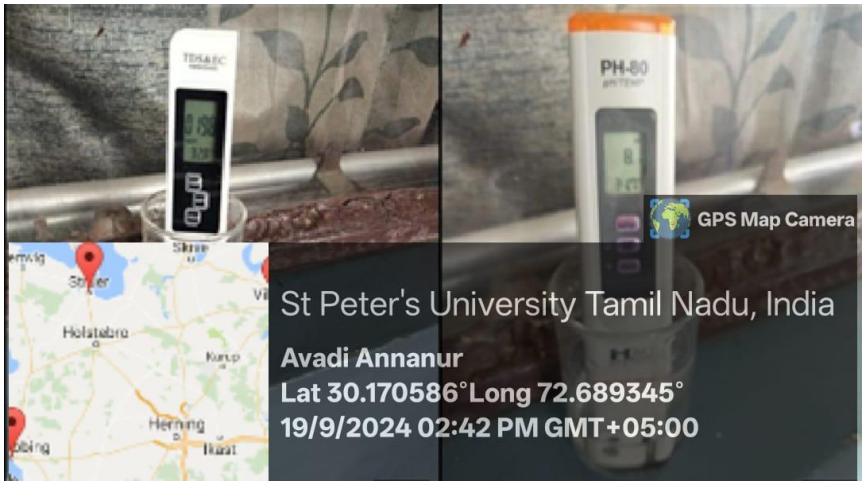

KEY SUSTAINABILITY
SUSTAINABLE DEVELOPMENT GOALS
KEY SUSTAINABILITY
01 No Poverty
02 Zero Hunger
03 Good Health & Well Being
04 Quality Education
05 Gender Equality
06 Clean Water & Sanitation
07 Clean Energy
08 Economic Growth
09 Industry, Innovation, Infrastructure
10 Reduced Inequalities
11 Sustainable Cities
12 Respon-sible Consum-ption
13 Climate Action
14 Life Below Water
15 Life on Land
16 Peace, Justice, & strong Institution
17 Partnership for the Goal


6
CLEAN WATER AND SANITATION

6.3.2. SPIHER's Commitment to Preventing Water Pollution and Accidental Spills

Wastewater Management and Treatment

- The campus is equipped with a **Sewage Treatment Plant (STP)** that treats all domestic wastewater before safe disposal or reuse.
- Treated water undergoes **primary, secondary, and tertiary treatment**, including sedimentation, biological treatment, filtration, and disinfection.
- Treated water is reused for **gardening, landscaping, and flushing**, significantly reducing discharge into external water bodies.
- Periodic **water quality testing** is conducted for parameters such as pH, TDS, BOD, COD, salinity, and microbial load to ensure compliance with regulatory



"Laboratory pH Meter Determining the Hydrogen Ion Concentration in SPIHER Water Samples"

Spill Prevention and Response Plan (SPRP) / Emergency Spill Procedure:

The Spill Prevention and Response Plan (SPRP) at SPIHER ensures safe handling, storage, and cleanup of chemical, oil, fuel, and wastewater spills across laboratories, workshops, chemical storage rooms, generator areas, and wastewater units. It emphasizes proper storage in labelled, leak-proof containers, separation of incompatible chemicals, use of PPE, regular equipment inspections, and staff training. During a spill, personnel must assess the situation, raise an alarm, wear appropriate PPE, and safely contain the spill using absorbents, neutralizers, or spill booms depending on the severity. The spill area should be cleaned thoroughly, and contaminated waste must be disposed of per hazardous waste guidelines. All incidents must be documented with details such as spill type, cause, response, and disposal method, and reported to the Safety Officer. Each lab should maintain a spill kit

with absorbents, neutralizers, gloves, goggles, and disposal bags. After every incident, a review is conducted to identify the root cause, improve safety practices, and prevent future occurrences.

Emergency contact Numbers for the Accidental and incidents in SPIHER:

SPIHER – Emergency Contact List

1. Campus Emergency Services

- ✓ Campus Security Office: 9789342835
- ✓ Main Gate Security: 04426558081
- ✓ 24/7 Emergency Helpline: 9840024189

2. Administrative Contacts

- ✓ Registrar Office: 9677102256
- ✓ Principal / Dean Office: 9087710117
- ✓ Hostel Warden (Boys): 9443606636
- ✓ Hostel Warden (Girls): 9841967959

3. Electrical & Maintenance

- ✓ Electrical Control Room: 8012489954
- ✓ Plumbing / Water Supply Issues: 8056435367
- ✓ Building Maintenance: 9444220089

4. Local Emergency Numbers

- ✓ Police: 100
- ✓ Ambulance: 108
- ✓ Fire & Rescue: 101

5. Fire safety Emergency contact numbers

- ✓ Campus fire safety officer: 9941474173

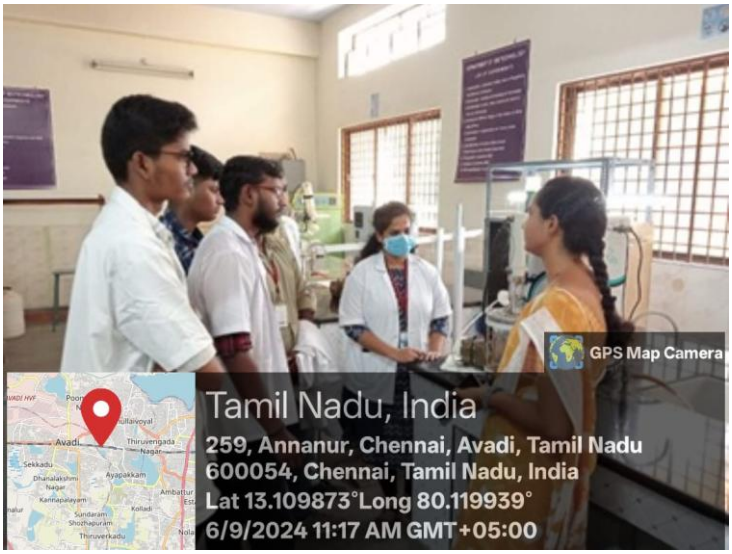
In addition to the STP, the university has implemented strict protocols for handling laboratory waste and hazardous materials. Departments that deal with chemicals, reagents, biological samples, or solvents follow well-defined Standard Operating Procedures (SOPs) for waste segregation, collection, and disposal. Special containers and spill-proof storage systems are provided to ensure that chemical waste does not accidentally enter the drainage system. Laboratories are required to neutralize certain chemicals before disposal, and materials that

cannot be treated on-site are handed over to authorised external agencies for safe disposal in compliance with national environmental regulations.

Safety in laboratory practices refers to the set of procedures, guidelines, and behaviors designed to protect individuals, equipment, and the environment from potential hazards during scientific work. It includes proper handling of chemicals, biological materials, and equipment, as well as adherence to protocols that minimize risks such as spills, contamination, injuries, or exposure to harmful substances.

Key components of laboratory safety include wearing appropriate personal protective equipment (PPE), such as lab coats, gloves, and goggles; maintaining clean and organized workspaces; understanding and following standard operating procedures; and ensuring proper labelling and storage of materials. Regular training, emergency preparedness, and the availability of safety equipment—like fire extinguishers, eyewash stations, and first-aid kits—further support a safe working environment.

Effective laboratory safety practices promote a culture of responsibility, reduce accidents, and ensure that scientific activities are carried out efficiently and ethically while protecting all individuals involved.



strict protocols for handling laboratory waste and hazardous materials. Departments that deal with chemicals, reagents, biological samples, or solvents follow well-defined Standard Operating Procedures (SOPs) for waste segregation

SPIHER follows a strong and thoughtful **waste recycling system**, built on the core idea of the **3Rs-Reduce, Reuse, and Recycle**. These principles guide how waste is handled on campus and help everyone use resources more responsibly. Students, staff, and faculty are encouraged to cut down on unnecessary waste, make use of items for longer, and recycle materials whenever possible. This approach not only reduces the environmental burden but also builds a culture of sustainability within the campus community.

An important part of the recycling system is the reuse of treated water. The campus has both a Sewage Treatment Plant (STP) and a Reverse Osmosis (RO) plant. Water that comes out of hostels, departments, and other facilities is treated to remove impurities and make it safe for non-drinking purposes. This treated water is then used for gardening and maintaining the greenery on campus. By doing this, SPIHER saves a significant amount of freshwater and supports its lush, eco-friendly surroundings.

Another key highlight of the system is the biogas plant, which turns organic waste into valuable energy. Food waste from the canteen and hostels, along with plant waste from the campus garden, is collected and sent to the biogas plant. Here, the waste is naturally broken down and converted into biogas. This clean energy is then used as fuel in the kitchen, reducing the need for conventional cooking gas. The leftover slurry from the biogas process works as a rich organic fertilizer, which is used in the campus gardens, creating a complete cycle of waste returning to nature in a useful form.

Eco-Friendly Energy Production: Biogas Plant Powered by Campus Waste.

Through these practical and eco-friendly initiatives, the SPIHER ensures that waste is not just disposed of but transformed into valuable resources, contributing to a cleaner and more sustainable campus.

Conclusion

SPIHER's waste recycling system reflects its deep commitment to sustainability and responsible resource management. By following the principles of Reduce, Reuse, and Recycle, the campus ensures that waste is handled in an efficient and environmentally friendly manner. The reuse of treated water for gardening, along with the conversion of food and plant waste into biogas, shows how the institution transforms everyday waste into valuable resources. These initiatives not only reduce environmental impact but also promote a culture of conservation among students and staff. Overall, the university's holistic approach to waste recycling contributes to a greener campus and sets a positive example for sustainable living.