VIT®
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SDG-6 Annual Report 2019-20

6 CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

Vellore Institute of Technology
Vellore – 632014
Tamil Nadu, India
www.vit.ac.in

Report of VIT-Vellore Campus

Preamble:

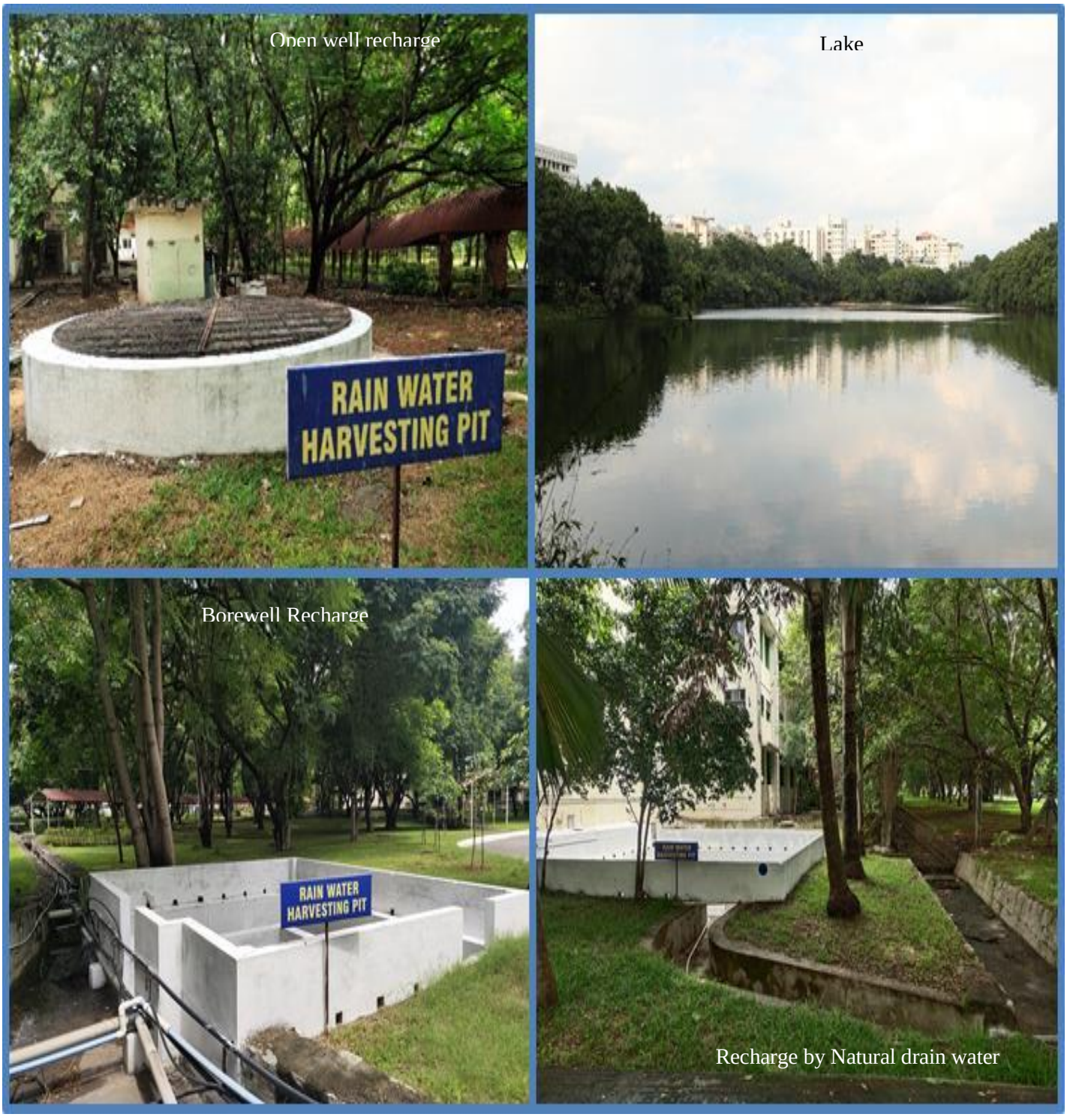
Water is the prerequisite for life as we perceive it today. The development of human civilization is closely tied to the water sources. In the modern times the need for Clean Water and Sanitation is all the more significant and it is a most important metric indicating the level of human civilization.

VIT is committed to respecting the significance of water. Over the years of its growth, the institution has developed a series of measures to make a sensible use of this invaluable resource. Some of the policy decisions in this direction include.

- Ensuring effective rainwater harvesting system
- Maintaining the water bodies within the campus
- Providing free hygienic drinking water to all residence and visitors
- Eliminating / Minimizing water wastage
- Scientific Recycling of used water
- Proper sewage treatment
- Conscious steps towards zero discharge campus

Measures taken to improve the water body resources:

31 numbers of Rainwater harvesting pits, Bore well /Open well recharge, Construction of tanks and bunds, Wastewater recycling Maintenance of water bodies and distribution system in the campus.


Open well recharge
RAIN WATER HARVESTING PIT
Lake
Borewell Recharge
RAIN WATER HARVESTING PIT
Recharge by Natural drain water

Ever wondered what VIT University does for Water Conservation on a daily basis? The Water Treatment Plant in our University roughly processes and purifies around 10 Million litres of water. https://www.youtube.com/watch?v=v1MIVhV9Mu8.

An MoU has been signed between School of Civil Engineering, VIT, Vellore and the Center for WaSH-AID, Duke University. Highlights of MoU include but are not limited to collaboration on air quality measurement for sanitation technologies and pursuit of joint funded projects related to engineered technologies and health.

School of Civil Engineering, VIT Vellore has entered into a memorandum of understanding (MoU) with National Environmental Engineering Research Institute (NEERI), Nagpur, a Research Institute under the Council of Scientific & Industrial Research (CSIR), Government of India. The two institutes will work together on various field of Environmental Engineering with a special focus on Air and Noise pollution, Water and Wastewater Treatments, Monitoring, treatment & management of industrial effluents, environmental impacts and mitigations measure and find ways to solve community related environmental problems.

The NSS programme was inaugurated at Government Higher Secondary School in Pennathur near Vellore by Dr. G. Viswanathan, Chancellor, VIT. The National Service Scheme (NSS) Special Camp is organised every year in an adopted village with the active participation of students from VIT. Activities during the camp include volunteering at government schools, conducting clinical blood tests and creating awareness on conservation of water and land resources in the chosen village.

World Water Day observed on 22nd March every year on different themes, is an opportunity to learn more about water related issues and take action to make a difference. It focuses on the importance of freshwater and advocates for the sustainable management of freshwater resources. ‘Water and Climate Change’ is the theme of World Water Day 2020.

Water conservation week was organized from 18th to 22nd March, 2019 in Vellore campus to spread the awareness among the campus inhabitants and people around.

Consistent with its belief, the Institute has taken a major initiative to clean a major water body in its neighbourhood - the Palar river. There was a large growth of prosopis juliflora along the river bed. Being an invasive plant, the growth was very rapid and it also played a significant role is depleting the ground water resources. VIT took up the task of clearing the river bed and the cleaning of the river bed for about 1.06 million sq.m was cleared in two phases.

This initiative was well recognized by the local population and the government of Tamil Nadu recognized the initiative by conferring “Green Award”. Also, VIT has bagged the ‘Clean and Smart Campus Award 2019’ and ‘Swachh Campus Ranking 2019’ of Higher Educational Institutions. The awards were received by VIT Vice President Mr. Sankar Viswanathan from Honourable Minister for Human Resource Development, Govt. of India, Shri. Ramesh Pokhriyal in New Delhi.


AICTE National level

CLEAN & SMART CAMPUS AWARDS-2019

A CAMPUS FIRST STEP TOWARDS SUSTAINABILITY

CERTIFICATE

of Recognition

Awarded to

VELLORE INSTITUTE OF TECHNOLOGY,
Tamil Nadu

The Institute is hereby awarded with Second Rank under the
" ☑University/ ☐ Polytechnic/ ☐Other Colleges"
category for their outstanding campus.

TERRE

Prof. Anil D. Sahasrobudhe
Chairman, AICTE


Ministry of Human Resource Development
Government of India

Swachh Campus Ranking 2019
of Higher Educational Institutions

The Vellore Institute of Technology, Vellore, Tamil Nadu has been ranked Second amongst the cleanest Higher Educational Institutions in the Country in the category Residential University - AICTE and was awarded on 3rd December, 2019 at Prajnan (Auditorium), AICTE, New Delhi

R. Subrahmanyam
Secretary, Department of Higher Education,
Ministry of Human Resource Development, Govt. of India

Ramesh Pokhriyal 'Nishank'
Minister of Human Resource Development,
Govt of India

Report of VIT-Chennai Campus

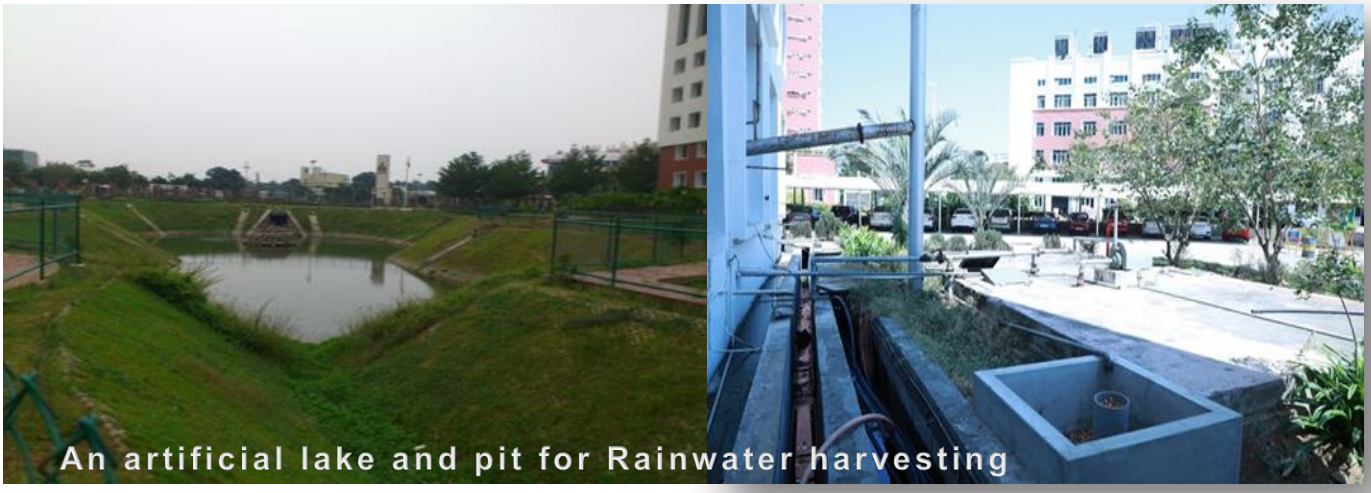
PREAMBLE

The climate change leads to extreme weather events, unpredictable water availability, water scarcity and contamination of water. The quality of water deteriorates due to urbanization, dumping of chemical waste and sewages and hence compromising the quality of water will result. But unsafe water kills more people each year than any other calamities.

Sustainable Practices of VIT involves various practices adopting the green policy. The green initiatives promote sustainability in the institute. The energy conservation facilities, water conservation, water recycling facility, green building, source segregated solid waste collection and processing, and green campus landscape contribute to the development and maintenance of the campus and consequently, VIT is recognised as a Green Campus. Sustainability is the core of the campus infrastructure.

Rainwater Harvesting at VIT Chennai

Appropriate rain water harvesting methods are practiced on the campus to save water. An artificial lake is constructed on the campus to collect the water from storm water drains. The overflow from the lake is connected to the other ponds on the campus so that the entire rainwater is harvested and conserved. The roof top water during the rain is collected in the underground storage tanks and is used as stored water for firefighting purposes. Also, landscaping of the campus was done with few depressions and small mounts and by cultivating grass / small trees and plants over the ground to reduce the run-off and ultimately increase the ground water re-charge.



An artificial lake and pit for Rainwater harvesting

Recycled Treated Water for Gardening/Landscaping and Flushing of Toilets

All the wastewater generated on the campus is collected and conveyed to a modern wastewater treatment plant and treated to a satisfactory level to recycle the water for gardening/landscaping and flushing of toilets. This helps in conserving the water to a great extent and helps in recharging the groundwater, which is the main source of water supply on the campus. Also, the nutrient and water value of recycled water is of great help in building the campus green. The recycled water is sprinkled to supply the optimal water for irrigation and thereby avoiding the water logging on the campus.

Sewage Treatment Facility

Water Supply and Management

The water supply on the campus is done by drawing ground water from 11 open dug well and 4 bore wells. First the water would be pumped to the firefighting tank and the overflow would be taken to the domestic water tank. This operation ensures ever ready situation for firefighting in case the need arises. The water from the domestic tank would be pumped to overhead tanks for general purpose use. For drinking purposes, the water from the domestic water tank is treated in Reverse Osmosis (RO) plant housed atop the buildings before supplying to users.

Sustainable Water Use

Many invited lectures were organised on Water Issues Related to Thermal Power, Desalination Techniques in Water Purification, Desalination Techniques -An Overview, Lectures by Indian Coast Guard- Pollution Control Unit (Pollution Response Team) and Indian Coast Guard (ICG) Ship, Chennai Port Trust, Indian Meteorological Department for creating awareness among students and faculties. Several Guest lectures were organised on Zero Liquid discharge system on a tannery effluent treatment plant (Conducted for industrial effluents treatment and disposal and pollution control and monitoring classes and Solid waste management. As a part of curriculum, the students were taken to Chembarambakkam water treatment plant, Ambur tannery effluent treatment plant, Perungudi Sewage treatment plant, Koyembedu and Sewage treatment plant at Chennai. As a part of curriculum, courses on Industrial Wastes Treatment and Disposal, Pollution Control and Monitoring, Water Resource Engineering and Solid Waste Management have been offered.

VIT Chennai is a part of multilevel Institutional Industrial collaboration: Centre for Sustainable Treatment, Reuse And Management for Efficient, Affordable and Synergetic solutions for water (Water-IC for SUTRAM of EASY Water (SUTHRAM) Project a water innovative centre collaborated with 8 partner institutions sponsored by DST, WTI Govt. of India (Cost of project is 893 lakhs). The research group of VIT Chennai is working on water and wastewater quality analysis and process design, Innovative Nano material synthesis and performance studies, Solid waste

Workshop on "Ion Chromatography and Water Purification Systems

management, Biological nutrient removal, Biological Sludge digestion methods and energy recovery, organic layered polymer nano composites, development of membranes for waste water treatment and Surface and ground water modelling. The outcome of the research was published in various international journals as “Process performance and reuse potential of a decentralized wastewater treatment system” Several patent filed related to water treatment like “Water Management Technology: Under Smart City Waste Water Management Using IoT-Based, Machine Learning Technology”

The researchers organised National Level Workshop on "Ion Chromatography and Water Purification Systems" with an objective to operating advanced/sophisticated instrumentation for analysis of water and wastewater. Also, it enables the participants to get an overview about the current developments in the water purification systems. National Level Workshop on Clean Water and Clean Energy is also conducted.

Workshop on "Ion Chromatography and Water Purification Systems

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