

VISHWAKARMA UNIVERSITY

SDG 6 REPORT 2022





About This Report

Vishwakarma University (VU) is unwavering in its commitment to sustainable development, intricately linked to the United Nations' "Transforming our World: the 2030 Agenda for Sustainable Development." These goals paint a global vision for a brighter future, and VU has taken these goals to heart, weaving them into our very essence. With our motto of unleashing human potential, we're passionate about nurturing an environment where our students grow holistically, ready to tackle life's challenges.

Our campus has transformed into an EcoCampus, a beacon for innovative sustainable solutions. We're all about sustainability and envision a future with a smaller carbon footprint. This report is a testament to our journey, highlighting our partnerships and impactful programs. A notable example is VU's Certificate Programme in Sustainability Management, a partnership with Hof University of Applied Sciences, Germany, which equips students with advanced business management techniques and cutting-edge sustainable practices. It equips students with cutting-edge sustainable practices. The Wilo Foundation-Vishwakarma University is another shining example; it promotes water treatment, purification, and awareness of clean drinking water through its Water Quality Centre of Excellence.

Despite the hurdles posed by the COVID-19 pandemic, our dedication to sustainability remains unshaken. This report provides an insight into the Institute's multifaceted endeavors to achieve the SDGs, spanning teaching, research, outreach, public engagement, and daily operations.

Our commitment extends to developing educated, ethical, and skilled individuals who embrace values of fairness, inclusivity, and excellence. Furthermore, our approach encourages students to actively apply their knowledge, bridging the gap between theory and real-world action.

Vishwakarma University (VU) adopts a participatory development model that fosters active involvement from both students and industry stakeholders. This model is underpinned by the academic philosophy we've developed at VU, which aims to equip students with the skills and attributes needed to navigate the challenges of the 21st century. Our association with Maharashtra State Faculty Development Academy, establishment of VU-Centre for Communication Development, the Sahyadri Communication Project, and VU Legal Aid Clinic are the pillars of VU-iPAR Model that exemplifies harmony with the National Education Policy 2020.

In summary, Vishwakarma University's commitment to sustainable development and the SDGs is deeply ingrained in its ethos. The Institute actively collaborates with diverse stakeholders, implements sustainability across its core operations, and fosters a culture of learning, research, and innovation. Through these collective efforts, VU is dedicated to preparing students to be future leaders who drive positive change and contribute to the greater good of society, in alignment with the global vision of the SDGs.

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VU's Participation in the THE Impact Rankings 2023

Vishwakarma University (VU) also participated last year in Times Higher Education (THE) Impact Rankings 2023, which looks at global universities' commitment and performance in furthering the Sustainable Development Goals (SDGs).

VU took part in the 4 SDGs listed below plus the mandatory SDG 17 and the results were as follows:

Overall Ranking 1001+





6 CLEAN WATER
AND SANITATION



**Ensure access to water and
sanitation for all**

Vishwakarma University (VU) has always showcased its commitment to advancing the principles of Sustainable Development Goal 6 (SDG 6) - Clean Water and Sanitation. VU operates a dedicated Center of Excellence that serves as a platform for education, research, innovation, and community outreach programs in the field of water and sanitation.

Our mission is to harness innovative technologies and best practices, with a focus on the local context and the needs of the community. VU recognizes the paramount importance of socialization and localization in creating sustainable solutions for the greater good. Our approach is all-encompassing and includes vulnerable segments of society. Water treatment and purification are at the core of our initiatives, addressing the urgent need for clean and accessible drinking water. Additionally, we prioritize creating widespread social awareness about the significance of clean water and proper sanitation practices. Our research, collaboration, and community outreach programs are collectively aimed at not only meeting the targets of SDG 6 but also at fostering a society that understands, values, and actively participates in the responsible management of water resources for the well-being of all.

Research in relation to SDG 6

With dedicated research centers and interdisciplinary collaborations, we aim to address water-related challenges, from quality and scarcity to sustainable management. Our efforts reflect our commitment to advancing knowledge and contributing to solutions that benefit society

Title	Authors name	Publication	Year
Dataset of Stagnant Water and Wet Surface Label Images for Detection	Sonali Bhutad, Kailas patil	Sciencedirect https://doi.org/10.1016/j.dib.2021.107752	Feb 2022
Optimizing Design Parameters of an Anaerobic Baffled Reactor for Better Performance –A review.	Sandip Kulkarni, Siddharth Jabade, Dhananjay Bhatkhande, Hemant Watve, Shraddha Khamparia, Pranav Dhaneshwar	International Journal of Health Sciences (IJHS) on 2022, Vol. 6, No. S1. e-ISSN: 2550-696X, p-ISSN: 2550-6978 Journal Impact Factor (SJIF 2020: 6.553) (Google-based Impact Factor 2021: 3.722) Citations: 367, h-index: 11, i10-index: 15	2022
India's water health: region wise water quality assessment of treated and untreated water	Priya G. Nakade, Dhananjay S. Bhatkhande, Manik P Deosarkar, Siddharth K. Jabade, Shraddha Khamparia, Hemant C. Watve	Sustainable Water Resources Management (2022) 8:20 https://doi.org/10.1007/s40899-022-00610-7 Received: 8 May 2021 / Accepted: 5 January 2022	2022

Patent

We have filled the patent on 7th June 2022.

https://drive.google.com/drive/folders/1Ep_xw5L0rVPiCUCuQ1hR7VMwNHXg_k00

Establishment of Water Quality Centre of Excellence

State of the art, Water Quality Centre of Excellence in collaboration with Wilo Foundation, Germany at VU, is a step towards fulfilling the motto of carrying out transformational research in the domain of water and sanitation <http://www.wilo-foundation.de/en/funded-projects/science/water-quality-centre-of-excellence-at-vishwakarma-university-puneindia.html>. This Centre has sophisticated equipment to measure physical, chemical, and biological parameters of water. To conduct research and measure the physical, chemical, and biological parameters of water, the Centre is well- equipped with the latest models of sophisticated instruments. They include Induced Couple plasma- Optical Emission Spectrophotometer, Atomic Absorption Spectrophotometer, High Performance Liquid Chromatograph, Total Organic Carbon analyser, Flame Photometer, Auto titrator, Microscope with Camera, Colony Counter, Incubators, Fluoride Meter, Colorimeter.

The main objectives of the Centre are to perform the following functions:

- Awareness and sensitization
- Policy and advocacy
- Innovative technology development
- Adaptation and proliferation
- Facilitation in terms of assistance in water quality measurement
- Socialization of best practices and innovations
- Collaboration and networking towards SDG 6

<https://www.vupune.ac.in/centres-of-excellence/wilo-vu-water-quality-centre-of-excellence>

Wilo Safe Water Hut at VU

In partnership with Wilo Mather and Platt, Vishwakarma University (VU) has introduced an innovative Water ATM at its Kondhwa campus. Students, faculty, and local community members can access purified water by swiping their identity cards, eliminating the need for bottled water and aligning with VU's plastic-free campus initiative. Unlike traditional Reverse Osmosis systems, this water treatment method conserves water, prevents membrane clogging, and retains essential minerals. These user-friendly Water ATMs have the potential for deployment in rural areas to address clean water needs. During the inauguration of the Water Quality Centre of Excellence, Professor Bullinger, Chairman of the Wilo Foundation, commended VU for raising awareness about clean water and its societal contributions through the Water ATM initiative.

https://www.vupune.ac.in/images/MediaCoverage/sakal_17_June_2018.pdf

The social initiative, Drinking Water facility at Rural Areas

Vishwakarma University under the scheme of Unnat Bharat Abhiyan (UBA) had adopted five villages namely Samrevadi, Bhilarwadi, Thoptevadi (Ghera), Thoptevadi (Purva) and Mordari which are situated near Sinhagad Fort, Pune, Maharashtra. Around 67 students studying in Bachelor of Engineering (B.E.) interacted with the villagers on different issues related to water, sanitation, health, and hygiene under the guidance of UBA Coordinator, Dr. Kailas Bhosale. The survey reflected that the residents lack several basic facilities including pure drinking water. The students found that villagers were using water from wells, but the quality of water was poor and unhealthy. As a result, villagers were facing various medical issues. Unnat Bharat Abhiyan (UBA) is a much needed and highly challenging initiative in this direction. To address this health problems of villages, under UBA, Vishwakarma University installed water ATM of capacity 500 Litters per Day to provide safe and clean drinking water in these adapted villages.

In 2022, the NSS Unit conducted a review drive in these villages to check the functioning of the Water ATMs.

Detailed Report –

https://drive.google.com/file/d/1p4OoyYzhCDgjTrehd09zEp3wVkqXyUD/view?usp=drive_link



VSTP – Vertical Sewage Treatment Plant

In order to provide clean water to regions with limited available land, Vishwakarma University (VU) partnered with Wilo Mather and Platt Pumps Private Limited in Pune, India, to collaboratively conceive and develop a Vertical Sewage Treatment Plant (VSTP) designed to produce potable water. The VSTP has a daily capacity of 10,000 liters and is progressing through a three-phase project initiated in 2019. These phases encompass the VSTP technology's conception, the creation and design of individual components, system design and configuration, installation at the VU campus, patenting, investigation, testing, validation, as well as simulation and modeling. The project engages five faculty members and students from the Science and Technology departments at VU, and the VSTP is now operational and has undergone controlled environment testing, reaching Technology Readiness Level 5.

In 2022, we conducted a comprehensive review of the VSTP's operation. The results indicate its effective performance, meeting the desired water treatment standards. With successful testing and validation, the VSTP is now prepared for wider deployment to address water scarcity issues in areas with limited land availability.



Rainwater Harvesting

Vishwakarma University has successfully implemented and is diligently maintained Rainwater harvesting mechanism on the campus.

The implementation of a rainwater harvesting mechanism on our university campus stands as a remarkable testament to our commitment to sustainable development and our dedication to achieving the objectives outlined in Sustainable Development Goal 6 (SDG 6) - "Clean Water and Sanitation." In recognition of the pressing global challenges related to water scarcity, water quality, and access to safe and affordable drinking water, we have undertaken this ambitious initiative to harness the potential of rainwater as a precious resource. This project underscores our university's role as a responsible steward of the environment, contributing to the preservation of freshwater sources, mitigation of floods, and enhanced water sustainability. By capturing, storing, and efficiently managing rainwater, we not only reduce the burden on conventional water sources but also promote awareness of water conservation and sustainability among our academic community.

This initiative has shown significant increase in the ground water level and this water is utilized for maintaining the garden in the University campus especially in the summers.



Celebration of World Water Day

World Water Day is a yearly celebration held on March 22nd to promote sustainable water resource management and bring attention to the value of freshwater. World Water Day is a yearly celebration held on March 22nd to promote sustainable water resource management and bring attention to the value of freshwater. It aims to address the global water crisis and promote access to clean water for all.

"Groundwater: making the invisible visible" was the subject for World Water Day in 2022. Groundwater supplies are under tremendous pressure from human activities (including population and economic growth) and climate unpredictability; many regions of the world are reporting severe depletion and pollution issues. A World Water Day dedicated to groundwater would draw attention to this underutilized resource, promote information sharing and teamwork, and raise public awareness of the significance of protecting our groundwater resources.

In collaboration with Wilo Mather and Platt Pumps Pvt. Ltd., the Water Quality Center of Excellence at Vishwakarma University hosted an online event on this day. To promote efforts to conserve and

maintain water resources and to inform students and the public about issues related to water.

Professor Dr. Somnath Nandi from the Savitribai Phule Pune University's Department of Technology is our special guest. They discuss the role of modeling and chemistry in water treatment technology. And Mr. Umesh Kulkarni, Wilo Mather Platt Pumps Pvt., also spoke about the importance of water and the need for awareness. We are also launched a poster competition with the theme "Water Sector Innovation."

In general, World Water Day provides a forum for fostering discussion, increasing awareness, and motivating group action to ensure the availability and sustainable management of water resources for the present.



Poster Competition

On April 2, 2022, our poster-making competition on "Innovation in the Water Sector" brought together students to share their creative insights into water-related issues. It was a dynamic platform for fostering awareness and encouraging innovative ideas to tackle the world's water challenges.



Industrial Visit

Faculty of Commerce and Management, Vishwakarma University organised an industrial visit to the Central Water and Power Research Station, Pune on the 28th of April 2022. The purpose of the visit was to understand the Managerial Prospects of Design Simulation. Through its Centre of Excellence dedicated to Water, and under the eco campus initiative, on a regular basis, events, educational tours, and workshops are conducted for awareness and to extract ideas from young minds to save, conserve, and manage Water resources.

By exposing students to real-world water management practices, this industrial visit fostered a deeper understanding of SDG 6. It encouraged students to develop innovative solutions and drive initiatives for sustainable water usage and conservation, making them valuable contributors to the global efforts to achieve clean water and sanitation goals.

https://www.instagram.com/p/Cdc8dailte-/?utm_source=ig_web_copy_link&igshid=MzRIODBiNWFIZA%3D%3D

Sensitization to problems relating to Water through NSS

National Survey Scheme at Vishwakarma University Pune had organized a 7 day Residential Camp for NSS volunteers. 20 volunteers along with Prof. Dr. Kailas Bhosle (Programme Coordinator, NSS) and Asst. Prof. Siddhi Singh (Programme Officer, NSS), participated in activities spread over 7 days in two villages, Mallavli and Mordari.

National Service Scheme (NSS) camps are pivotal for advancing Sustainable Development Goal (SDG) 6, ensuring access to clean water and sanitation. NSS camp conducted facilitated; educating communities on clean water's significance, sanitation practices, and their health impact, awareness about sanitation facilities, addressing toilet and waste management needs, discuss good hygiene practices, cleaning natural water sources, well cleaning drive etc.





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