Times Higher Education

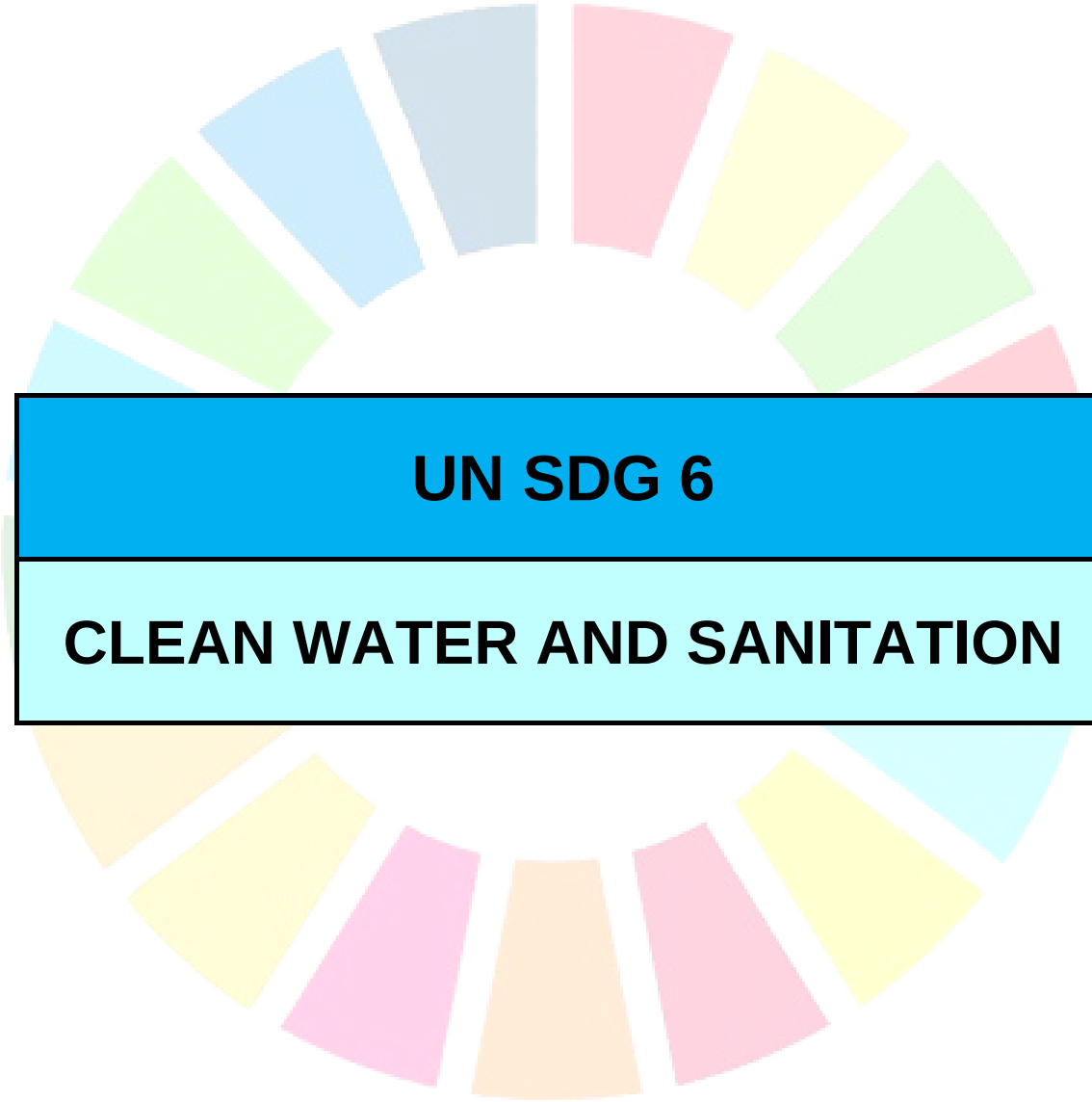
Impact Rankings

HINDUSTHAN EDUCATIONAL AND CHARITABLE TRUST
HICET

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institution

Valley Campus, Pollachi Highway, Coimbatore 641 032, Tamil Nadu, India | www.hicet.ac.in



UN SDG 6

CLEAN WATER AND SANITATION

6.2 WATER CONSUMPTION PER PERSON

6.2.1 Does your university as a body measure the total volume of water used in the university that is taken from mains supply, desalinated, or extracted from rivers, lakes, or aquifers?

Yes. The institution actively monitors and records campus water use, prioritizing efficient management and sustainability. Water is sourced from both purchased and self-extracted supplies. Annually, 36,000 units (36,000 m^3) of water are purchased from the local municipality through metered connections, enabling precise measurement and regulation. The campus also operates 9 bore wells, contributing a major share of the water requirement. At full capacity, the campus demand is 609.030 m^3 per day, of which 250 m^3 can be treated and reused when the treatment plant runs continuously for 24 hours. Regular maintenance and monitoring of bore wells ensure optimal yield and responsible groundwater use. Water from bore wells is mainly used for landscape irrigation, laboratory needs, and sanitation across campus. By combining municipal supply with bore well sources, the institution reduces dependence on a single source and strengthens overall water sustainability.

6.2.2.1 Volume of water used in the university: Inbound (treated/extracted water)

Volume of water used in the university: Inbound (treated/extracted water): 222295.950 m^3

6.2.2.2 Campus population

Campus Population (Students, Staff and Faculty): 6146

Total Campus Population

S.No.	Description	Total
1	Students - Hostellers (UG and PG)	3694
2	Students - Day Scholars (UG and PG)	1989
2	Academic Faculty	318
3	Non-teaching Staff	145
	Grand Total	**6146**

Hostel Population

S.No.	Description	Type	Capacity	Students Residing
1	Girls Hostel (Jansi Rani)	Girls Hostel	950	844
2	Boys Hostel (Dheeran)	Boys Hostel	300	292
3	Boys Hostel (Senior)	Boys Hostel	1374	1350
4	Boys Hostel (Cheran)	Boys Hostel	452	444
5	Boys Hostel (Cholan)	Boys Hostel	348	340
6	Boys Hostel (Pandian)	Boys Hostel	432	424
Grand Total			**3856**	**3694**

Daily Water Demand

S. No.	Description	Nos.	Rate of Supply (Litres / day)	Total Supply (Litres / day)	Total Supply (m^3 / day)
1	Hostellers	3694	135	498690	498.690
2	Day Scholars	1989	45	89505	89.505
3	Faculty and Others	463	45	20835	20.835
Grand Total		**6146**	**-**	**609030**	**609.030**

Total water demand per day = 609.030 m^3

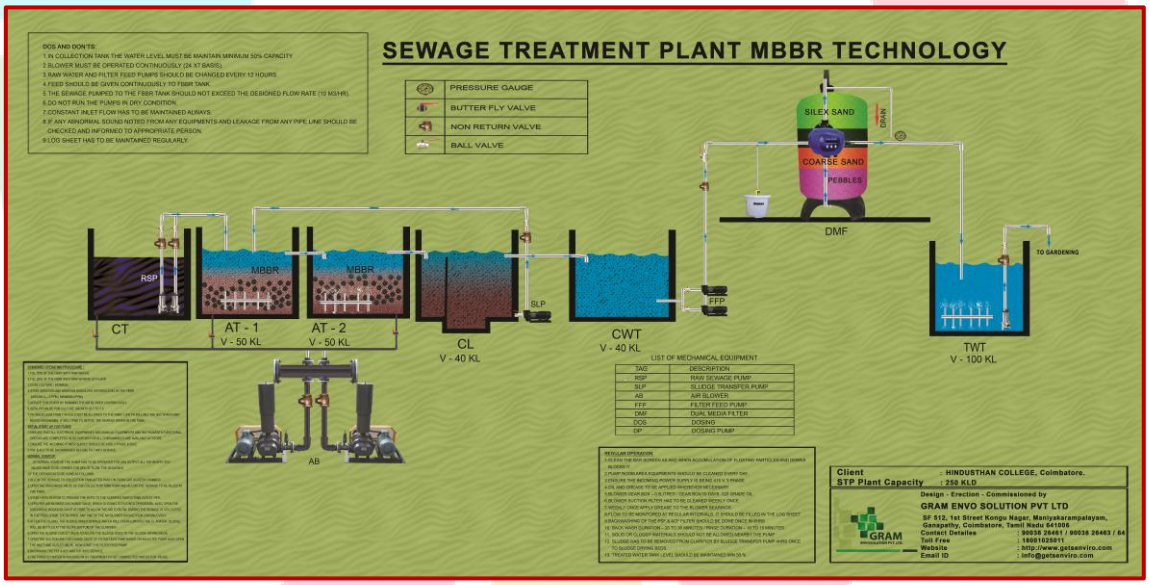
Total water demand per year = 222295.950 m^3

Water Meter

6.3 WATER USAGE AND CARE

6.3.1 Does your university as a body have a process in place to treat wastewater?

Yes. The institution operates a wastewater treatment plant with a robust daily capacity of 250,000 litres, playing a crucial role in managing and treating the wastewater generated across the campus. This wastewater treatment plant employs Moving Bed Biofilm Reactor (MBBR) technology that treats organic waste by using small, specialized biofilm carriers that promote the growth of beneficial microorganisms. These carriers are constantly in motion within the reactor, maximizing contact between the wastewater and the microbial biofilms that degrade organic pollutants. This design enhances treatment efficiency by optimizing nutrient and oxygen distribution even with high loads. The MBBR process integrates both aerobic and anaerobic treatments to achieve excellent removal rates for contaminants while maintaining a compact and efficient system. The treated water is then repurposed for non-potable applications, such as landscaping and irrigation, reducing campus demand on freshwater sources.



Layout of Sewage Treatment Plant

Air Blowers

Filter Feed Tank (Capacity 40KL) and Filter Feed Pump

Dual Media Filter

6.3.2 Does your university as a body have processes to prevent polluted water entering the water system, including pollution caused by accidents and incidents at the university?

Yes. The institution has established clear processes to prevent polluted water from entering the water system, including pollution from accidents or incidents. A key aspect of these processes is the use of spill containment systems and regular monitoring of water sources across the campus. The wastewater treatment plant uses advanced systems to ensure that only treated and safe water is released into the environment. The quality of treated wastewater is tested monthly to ensure that parameters remain within TNPCB limits. Strict guidelines are followed for handling chemicals and hazardous materials in laboratories and other areas, reducing the risk of contamination. In the event of an accident or spill, immediate response protocols are activated to contain and treat the affected water so it does not enter the broader

system. Regular staff training and audits help maintain compliance with environmental safety standards, further protecting water resources.

6.3.3 Does your university as a body provide free drinking water for students, staff and/or visitors, e.g. drinking water fountains)?

Yes. The institution has strategically placed water purifiers on its campus to ensure access to clean and safe drinking water. These water purifiers are designed to provide treated drinking water, ensuring that students, staff, and visitors have easy access to high-quality water throughout the day. The placement of the purifiers is carefully planned to serve high-traffic areas such as academic buildings, hostels, and common areas, ensuring maximum accessibility. By addressing the importance of hydration and water quality, the institution demonstrates a commitment to fostering a healthy environment. This initiative not only promotes the well-being of individuals but also reduces the need for bottled water, aligning with sustainable practices by minimizing plastic waste.

Water Filter

6.3.4 Does your university as a body apply building standards to minimise water use? (Relevant standards to be indicated)

Yes. The institution applies building standards aimed at minimizing water use, focusing on sustainable water management across campus infrastructure. Key initiatives include rainwater harvesting facilities that capture and store rainwater for non-potable uses like irrigation and flushing, reducing dependency on external sources. The campus uses water metering to monitor consumption, identify inefficiencies, and encourage responsible use. An automatic water level controller is installed in overhead tanks to regulate levels, prevent overflow, and optimize stored water. Push-fit taps in water filters and restrooms prevent wastage by controlling flow and ensuring proper shut-off. For landscaping, sprinkler and drip irrigation systems deliver water directly to plant roots, minimizing evaporation and runoff. The campus also conducts regular maintenance with inspections and repairs to detect and fix leaks promptly, ensuring efficient use of resources.

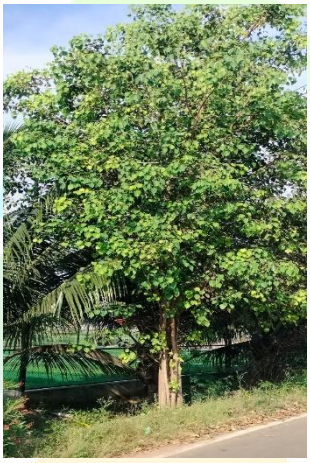
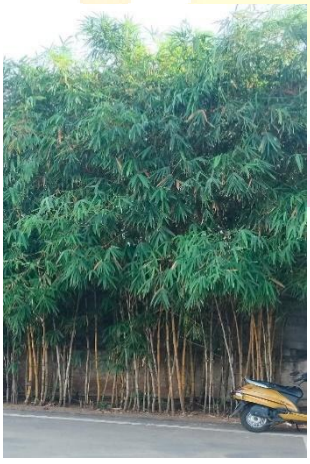
Rainwater Harvesting Pits

Drip Irrigation

Sprinkler Irrigation

6.3.5 Does your university as a body plant landscapes to minimise water usage? (e.g. use drought-tolerant plants)

Yes. The institution actively incorporates sustainable landscaping practices to minimize water usage. The landscape planning focuses on selecting drought-tolerant plants that require less water while thriving in the local climate. Native plants are prioritized, as they are well-adapted to the region's conditions and often require less maintenance, reducing both water and nutrient inputs. The rainwater harvesting systems in the campus are integrated to collect runoff for use in irrigation, further conserving potable water. The use of efficient irrigation systems, such as sprinkler and drip irrigation, helps retain moisture in the soil, reducing water evaporation. These measures collectively contribute to a more sustainable campus environment while minimizing the ecological footprint of campus. The total number of matured trees (greater than 10 years old) is about 1435. Some of the trees are shown in the following images.

		
Azadirachtaindica	***Ravenalamadagascariensis***	***Thespesiapopulnea***
		
Ficusreligiosa	***Millingtoniahortensis***	***Terminalia catappa***
		
Bambusa vulgaris	***Ficusbenghalensis***	***Cocos nucifera***

		
Millettiapinnata	***Palm Tree***	***Couroupitaguianensis***
		
Delonixregia	***Casuarina cunninghamiana***	***Ficusauriculata***
		
Samaneasaman	***Leucaenaleucocephala***	***Nerium oleander***

Trees in the Campus

6.4 WATER REUSE

6.4.1 Does your university as a body have a policy to maximise water reuse across the university?

Yes. The link to the policy document from the institution website is given below.

Policy created: 2022

Policy revised: -

https://hicet.ac.in/aqar/Policy%20Documents/HiCET-Water-Management-Policy.pdf

6.4.2 Does your university as a body measure the reuse of water across the university?

No.

6.5 WATER IN THE COMMUNITY

6.5.1 Does your university as a body provide educational opportunities for local communities to learn about good water management?

Yes. The institution actively engages with local communities to promote awareness and education on sustainable water management practices. Through various outreach initiatives and community-focused programs, the institution organizes workshops, seminars, and awareness campaigns that highlight the importance of water conservation and efficient management techniques. The institution also collaborates with local authorities and environmental organizations to provide resources, training, and hands-on experiences to community members. HiCET integrates water management topics into its academic curriculum, allowing students to engage in practical projects that benefit both the institution and surrounding communities. These efforts are part of the college's commitment to fostering a sustainable and environmentally-conscious society.

6.5.3 Does your university as a body support water conservation off campus?

Yes. The institution actively supports water conservation off-campus through multiple initiatives that aim to benefit both local communities and the environment. The institution works with local authorities, NGOs, and community organizations to raise awareness about water conservation and sustainable usage practices. HiCET organizes workshops and seminars that educate the public on topics like water recycling, rainwater harvesting, and reducing water wastage in daily activities. Students and faculty also volunteer for various environmental projects, contributing their time and expertise to help implement water-saving solutions. The college has been instrumental in advocating for the use of water-efficient appliances, encouraging the adoption of sustainable water management practices in nearby schools and communities. These efforts reflect the institution’s commitment to water conservation beyond its campus, aiming to make a lasting impact on the surrounding region.

6.5.4 Does your university as a body, where water is extracted (for example from aquifers, lakes or rivers), utilise sustainable water extraction technologies on associated university grounds on and off campus?

Yes. The institution emphasizes sustainable water extraction practices both on and off campus. The institution utilizes rainwater harvesting systems across campus to collect and store rainwater, reducing reliance on external water sources. This harvested water is primarily used for landscaping, flushing, and non-potable purposes, which minimizes the demand on

aquifers and local water bodies. HiCET has implemented water-efficient technologies like low-flow fixtures in toilets and drip irrigation systems with to reduce wastage. The college also encourages the use of recycled water for various campus activities. Off-campus, the institution collaborates with local communities to promote awareness about sustainable water use and conservation. Regular monitoring of water extraction and usage ensures adherence to sustainable practices, reducing environmental impact while maintaining water availability for future needs.

6.5.5 Does your university as a body cooperate with local, regional, national or global governments on water security?

Yes. The institution collaborates with local, regional, and national governments to promote water security. The institution actively participates in government-led initiatives focused on sustainable water management and conservation. At the local level, HiCET works with municipal authorities to support water conservation efforts, including rainwater harvesting and the implementation of water-efficient technologies. Regionally, the college engages in awareness campaigns organized by state agencies that emphasize the importance of safeguarding water resources and addressing challenges like water scarcity. Nationally, HiCET aligns with government programs such as the Jal Shakti Abhiyan, which promotes water conservation and management across India. Additionally, the college participates in global dialogues on water security, collaborating with international organizations and academic bodies to explore innovative solutions and share best practices for sustainable water use.

6.5.6 Does your university as a body actively promote conscious water usage on campus?

Yes. The institution actively promotes conscious water usage on campus through a range of sustainable practices. The college has implemented rainwater harvesting systems across its buildings, which help capture and store rainwater for various uses, reducing dependency on external water sources. Water-saving fixtures have been installed to lower daily water use and reduce pressure on the pipes. HiCET also promotes water recycling and reuse; wastewater from hostels and academic buildings is treated and repurposed for landscaping and other non-potable uses, helping conserve fresh water. Additionally, the campus community, including students, staff, and faculty, participates in awareness campaigns highlighting the importance of water conservation, such as "Save Water" workshops and eco-friendly events.

6.5.7 Does your university as a body actively promote conscious water usage in the wider community?

Yes. The institution actively promotes conscious water usage beyond campus through community engagement and awareness initiatives. The college organizes outreach programs in collaboration with local authorities, educating the public on sustainable water practices such as rainwater harvesting, wastewater recycling, and efficient water use in households. HiCET also conducts workshops and seminars for nearby schools, businesses, and residents, emphasizing simple yet effective conservation methods like fixing leaks and reducing wastage. Students and faculty participate in community projects focused on environmental sustainability, often involving practical demonstrations and distribution of informative materials to encourage water-saving habits. These efforts reflect institution's commitment to environmental stewardship, as it strives to make a positive impact on water conservation within the broader community while fostering a culture of sustainability and awareness.

SAMPLE EVIDENCES

(a). Grand World Water Day Special Awareness Programme

The NSS and NCC Units of Hindusthan College of Engineering and Technology participated in the Grand World Water Day Special Awareness Programme organized by the Coimbatore District Environmental Organizations on 22nd March 2024, with the primary objective of educating students and local community members about the importance of sustainable water management. The event highlighted current water-related challenges such as scarcity, wastage, declining groundwater levels, and the growing need for conservation in both rural and urban settings. Volunteers conducted interactive sessions and demonstrations focusing on practical methods of saving water, including household-level conservation, rainwater harvesting, greywater reuse, and efficient water usage practices in agriculture and domestic activities.

Participants were encouraged to rethink their daily water use habits and adopt simple yet effective measures to reduce wastage. The programme also stressed collective responsibility, emphasizing how communities can work together to preserve water resources for future generations. Through discussions, awareness campaigns, and hands-on activities, the initiative successfully enhanced understanding of responsible water usage and empowered participants to implement water-saving techniques in their homes and surroundings. The event clearly demonstrated the institution's commitment to community education and environmental stewardship, making it a valuable contribution to promoting good water management practices.

Brochure / Invitation of the Event

Photograph of the Event

(b). World Environment Day Celebrations 2024 - Mega Tree Plantation Drive

The NSS Unit of HiCET conducted a large-scale Plantation Drive to celebrate World Environment Day on 5th June 2024, during which volunteers planted over 500 saplings and expanded the existing Miyawaki Forest on campus. This initiative not only promoted greening and improved environmental quality but also contributed indirectly yet significantly to water conservation efforts. The Miyawaki method, known for its dense and diverse planting style, enhances soil structure and increases groundwater recharge by improving rainwater infiltration. By expanding the green cover, the initiative helps reduce soil erosion and surface runoff to increase the water retention and sustainable use of freshwater resources.

The programme emphasized the ecological benefits of trees, including their role in sustaining the water cycle, maintaining soil moisture, and improving local microclimates. Volunteers actively participated in planting and nurturing the saplings while also raising awareness about the importance of preserving natural ecosystems for environmental stability. Through this event, the university strengthened its commitment to sustainability and encouraged students to adopt eco-friendly practices that support long-term water security on campus and in the surrounding community.

Brochure / Invitation of the Event

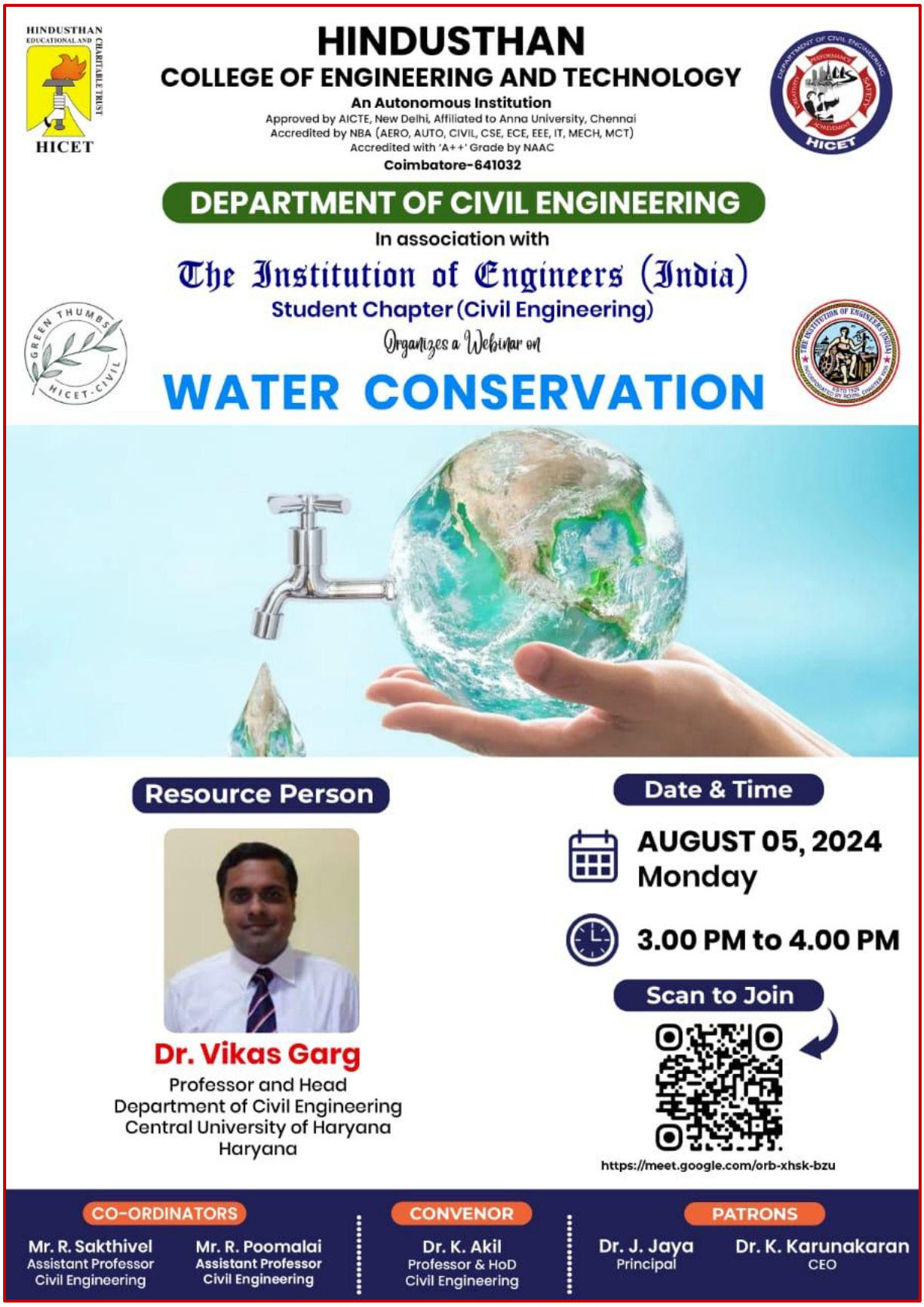
Photographs of the Event

(c). Webinar on Water Conservation

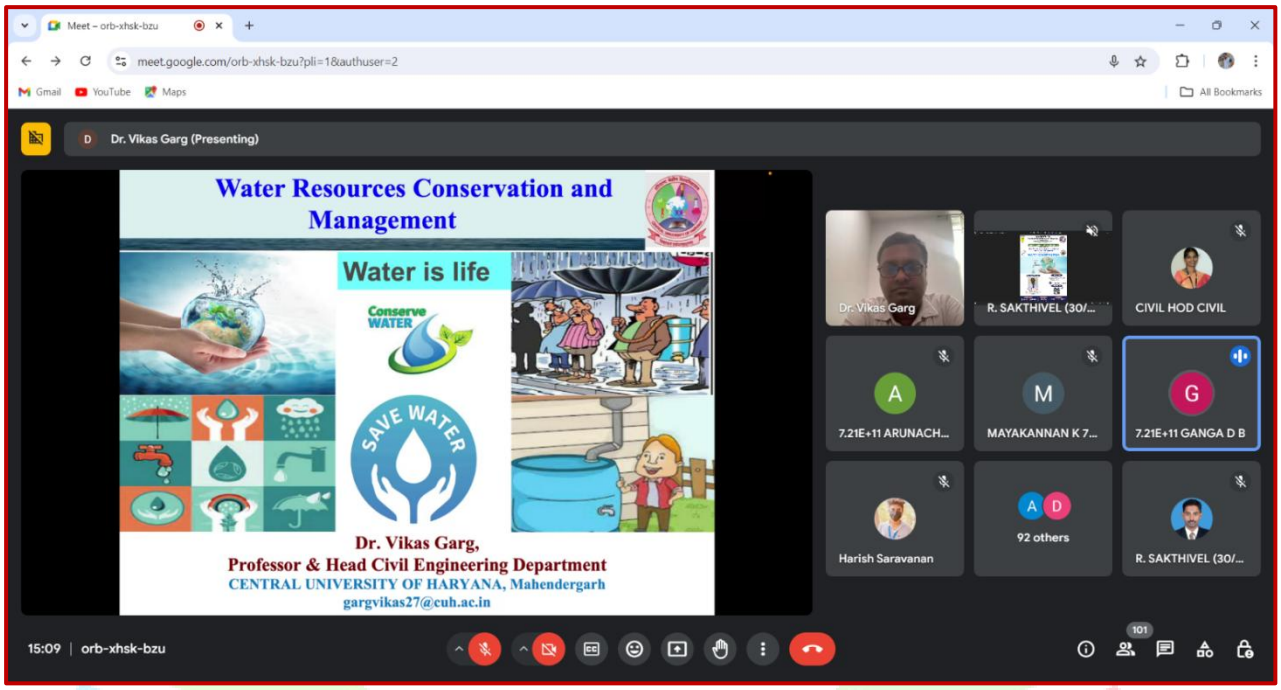
The Webinar on Water Conservation, conducted on 5th August 2024 by the Department of Civil Engineering at Hindusthan College of Engineering and Technology, aimed to raise awareness about the urgent need for sustainable water management. Organized under the Institution of Engineers (India) – HiCET Civil Engineering Students Chapter, the session featured Dr. Vikas Garg, Professor and Head, Department of Civil Engineering, Central University of Haryana, as the resource person. With 126 participants, including students and faculty, the webinar provided valuable insights into global and local water challenges.

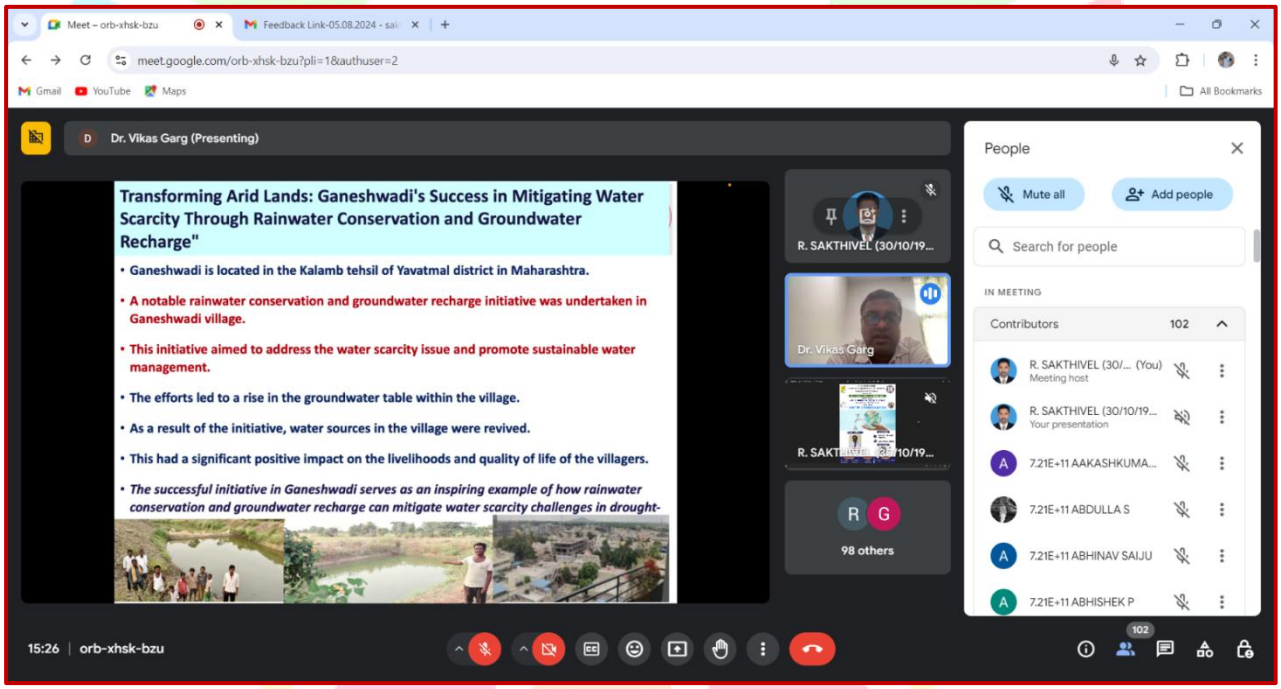
Dr. Garg emphasized the increasing pressure on freshwater resources due to population growth, climate change, and urbanization. He discussed practical and scientific methods of water conservation such as rainwater harvesting, groundwater recharge, reduction of water wastage, and the adoption of efficient water-use technologies. Participants also learned about sustainable water management practices that contribute to long-term environmental stability.

The session was highly interactive, allowing participants to engage with real-world case studies and clarify their understanding of conservation strategies. Feedback indicated that attendees found the content informative, relevant, and useful for academic and practical applications. The event inspired future initiatives such as campus water audits, awareness campaigns, and student-led conservation projects, strengthening HiCET's commitment to promoting responsible water usage.



Event Brochure / Invitation





Photographs of the Event

Sample Certificate of Participation

(d). Courses on Water Conservation integrated into the curriculum

The institution has strategically embedded water conservation and management principles in various courses (mentioned below) of different disciplines to develop environmentally responsible engineers.

S.No.	Course Code and Name	Semester	Credit
1.	22CE3203 Water Supply and Wastewater Engineering	III	3
2.	22AG4203 Hydrology and Water Resources Engineering	IV	3
3.	22AG4251 Soil and Water conservation Engineering	IV	3
4.	22AG5305 Groundwater and Well Engineering	V	3
5.	22AG5251 Irrigation and Drainage Engineering	V	3
6.	22CE5319 Hydrology	V	3
7.	22CE5320 Groundwater Engineering	V	3
8.	22CE5322 Water Resources Systems Engineering	V	3
9.	22CH6311 Wastewater Treatment	VI	3
10.	22CE6313 Watershed Conservation and Management	VI	3
11.	22CE6311 Industrial Wastewater Management	VI	3
12.	22CE6314 Integrated Water Resources Management	VI	3
13.	22CE7201 Water Resources and Irrigation Engineering	VII	3
14.	22CE7307 Urban Water Infrastructure	VIII	3
15.	22AG8309 Micro-irrigation Systems	VIII	3