



SDG 14: Life Below Water

GD Goenka University – Sustainability Initiatives and Achievements

1. Introduction

According to the United Nations Sustainable Development Goals Report 2023, the world's oceans face increasing threats from pollution, acidification, warming, and overfishing—placing marine ecosystems in a state of emergency. With ten global targets, SDG 14 – Life Below Water seeks to conserve and sustainably use oceans, seas, and marine resources by reducing marine pollution and promoting ecosystem resilience.

At GD Goenka University, our commitment to environmental sustainability extends to the protection of aquatic ecosystems and water resources. Through interdisciplinary teaching, research, and awareness initiatives, the University promotes understanding of marine and freshwater biodiversity, pollution control, and sustainable resource management. Faculty and students engage in projects related to water quality assessment, sustainable aquaculture practices, and environmental conservation, contributing meaningfully to SDG 14.



GD GOENKA EDUCATION CITY



a) Education

At GD Goenka University, sustainability and environmental consciousness are embedded across academic programmes in alignment with the United Nations Sustainable Development Goal 14 – Life Below Water and the National Education Policy 2020. The University's Curriculum Enrichment Policy ensures the integration of cross-cutting themes such as environment, ecology, and sustainability into undergraduate and postgraduate curricula.

1.3: Curriculum Enrichment

1.3.1: Institution integrates cross-cutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability and other value framework enshrined in Sustainable Development Goals and National Education Policy – 2020 into the Curriculum

File Description	Template	Documents
Upload Additional information		View Document
Provide Link for Additional information		

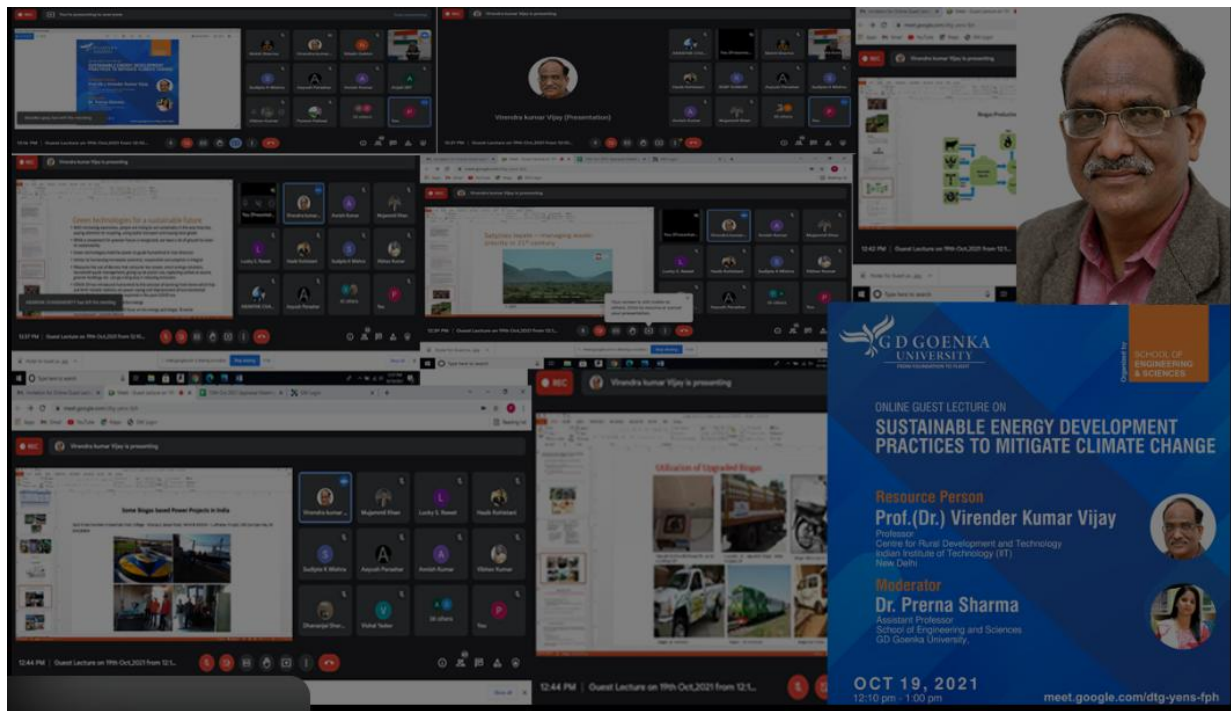
1.3.2: Number of certificate/value added courses/Diploma Programme offered by the institutions and online courses of MOOCs, SWAYAM/e Pathshala/ NPTEL and other recognized platforms (without repeat count) where the students of the institution have enrolled and successfully completed during the last five years

File Description	Template	Documents
Provide the relevant information in institutional website as part of public disclosure		View Document

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In addition, the Centre of Excellence in Occupational Health, Safety, Fire & Environment (C-OHSFE) offers the Certificate in ESG & Sustainability, a six-month programme designed to equip students with analytical and technical skills in environmental monitoring, sustainability reporting, and climate-risk management. ([Certificate in ESG Sustainability](#))



b) Outreach Initiative: Water, Sanitation & Hygiene Awareness

The university's NSS unit partnered with Navjyoti India Foundation on 27 February 2024 to conduct a rally in Ghamroj village focused on "Empowerment through Education and Creativity on Water, Sanitation and Hygiene". Students and faculty engaged in awareness activities around water-use, hygiene and community concerns. [National Service Scheme \(NSS\) @GD Goenka University](#)

This activity supports SDG 14 (Life Below Water) by promoting community awareness of water-resource health and pollution issues.

c) Outreach Initiative: Academic & Community Collaboration on Water Sector

In March 2023, GDGU's School of Humanities, Social Sciences & Education signed an MoU with Navjyoti India Foundation to collaborate on outreach programs, research projects and student placements relating to water-sector issues. [Hygiene-Donation-Drive-Navjyoti-Foundation](#) This collaboration supports action under SDG 14 by enabling applied research and community action focused on clean water resources.

GD Goenka University served as the academic partner for a two-day regional workshop organized by the Navjyoti India Foundation, Gurgaon, in collaboration with its knowledge partner, the Water Resources Council (WRC) and the Women's Indian Chambers of Commerce and Industry (WICCI), held on March 10–11, 2023. The event featured distinguished speakers, including Hon'ble Dr. Kiran Bedi, who delivered the keynote address, and Dr. Anuradha Tiwari, Professor in the Department of Economics, School of Humanities, Social Sciences & Education (SoHSE), who presented on gender equality and development in the water sector. During the workshop, a Memorandum of Understanding (MoU) was signed between Navjyoti India Foundation and SoHSE, GD Goenka University, to foster collaboration in outreach programs, research projects, and student placements. Faculty members and students from SoHSE actively participated, enhancing their understanding of sustainability and gender-inclusive approaches in water resource management.





"Swachhta Yatra" Cleanliness Campaign

- On 28 March 2023, the School of Education at GDGU joined a collaborative *Swachhta Yatra* organised by Municipal Corporation Manesar (MCM) in Sohna/Gurugram. [Swachhta Yatra](#)

- The event included students, faculty, municipal sanitation workers and village representatives; activities involved awareness walks, pledges for cleanliness, and social messaging about waste segregation.
- While not exclusively water-body cleaning, this initiative demonstrates community engagement and environmental awareness activity aligned with the broader goals of SDG 14 and SDG 6.



The School of Education, School of Humanities, Social Sciences & Education (SoHSE), GD Goenka University, participated in the collaborative *Swachhta Yatra* organized by the Municipal Corporation Manesar, Gurgaon. The event was led by Hon'ble Joint Commissioner Ms. Alka Chaudhary, along with SBM Consultant Ms. Zenith Chaudhary, Senior Sanitary Inspector Mr. Vijay Kaushik, Sanitary Inspectors Mr. Manoj Kumar, Mr. Sumit Kumar, Mr. Sumit Hudda, Dr. Satya Sahai (Swachhta Abhiyan Committee Member), Dr. Nitika Arora (Brand Ambassador, MCM), Mr. Navdeep Singh (Brand Ambassador, MCM), and Village Sarpanch Mr. Sher Singh Chauhan. The initiative promoted cleanliness, community engagement, and environmental responsibility in alignment with the Swachh Bharat Mission.

d) Water-Quality & Community Research Grants

- GDGU's *Research Grants* page states that proposals will "highlight the types of the pollutants present in the water samples collected from different areas and the factors affecting the concentration of each of the parameters. The finding will be helpful for the local government to plan the use and protection of groundwater resources." gdgoenkauniversity.com
- This indicates that GDGU is supporting applied research focused on water pollution, consumption and conservation—key aspects of SDG 14 (Life Below Water) and SDG 6 (Clean Water and Sanitation).

e) Water Management Education Opportunities

GDGU actively advances water conservation and sustainable management through its infrastructure and outreach programmes. The campus features a rainwater harvesting system with seven pits and rooftop collection systems, which help recharge the groundwater table and reduce storm-water runoff. [Admin Manual](#)

Treated sewage from hostels and academic blocks is reused for horticulture, thereby reducing freshwater demand. These practices are integrated into the University's educational framework, providing students with practical exposure to ground-water recharge, water-reuse strategies and sustainable water-use behaviours. In doing so, GDGU empowers its community and neighbouring areas with knowledge and tools that support SDG 14 (Life Below Water) and SDG 6 (Clean Water and Sanitation).

- GDGU's facilities page confirms that the campus has a rain-water harvesting system and associated outreach to raise awareness and infrastructure for water conservation. [Facilities](#)
- The university's sustainability page mentions that GDGU has "14 borewells ... to harvest rainwater, successfully raising the ground water-bed level from 800 to 150 feet." [Sustainability](#)

3. Research and Publications

a) Research Projects

GD Goenka University promotes a vibrant research ecosystem across its diverse schools, encouraging interdisciplinary collaboration and innovation. Faculty and students are engaged in projects focusing on sustainable technologies, digital education tools, and social innovation. Research areas include the development of bio-based materials for sustainability, AI applications in education and healthcare, renewable energy utilization for campus operations, and smart agriculture solutions. These initiatives align with the university's vision of contributing to a sustainable and knowledge-driven society. Through partnerships with industries, research organizations, and government agencies, GDGU ensures that its research outcomes have practical, community-level impact.

Research Projects

1. Project Title: Modeling and simulations of Supernovae type Ia light curves: Connecting observations with theory

Granting agency: Science and Engineering Research Board (SERB), India.

Amount: INR-2280520/-

PI: Dr Shashikant Gupta Department of Basic & Applied Sciences, School of Engineering & Sciences

CO-PI: Dr Abhinav Gupta

School of Engineering & Sciences

Summary: Supernovae type Ia (SNIa) are among the most important tools in modern cosmology. Most of the information about the SNIa is obtained through their Light Curves (LC) and spectrum. LC shows the variation of the brightness of SNIa with time. However, there are gaps in understanding of the SNIa physics. For instance the dependence of LC shape on mass of ^{56}Ni and synthesized in the explosion, relation between the peak luminosity and the decline rate is poorly understood. PIs are preparing software/computer programs to numerically simulate the LCs to understand the explosion mechanism in detail.

2. Project Title: MULTIVARIATE ANALYSIS AS A TOOL IN GROUNDWATER QUALITY ASSESSMENT OF MEWAT DISTRICT

Funding Agency: Science & Engineering Research Board (SERB), Department of Science & Technology, New Delhi

Grant Amount: INR 2701800/-



Name of PI : Dr. Smita Sood Assistant Professor,
School of Engineering & Sciences,
GD Goenka University, Sohna, Gurugram, Haryana,
India



Name of Co-PI : Dr. Priyanka Sharma Assistant
Professor,
School of Engineering & Sciences,
GD Goenka University, Sohna, Gurugram, Haryana,
India

Summary: Mewat is one of the district of Haryana where groundwater is used as one of the source for drinking, agriculture as well as for industrial purposes. Therefore, it was thought to investigate water quality of the Mewat district whether it is potable or not by physico-chemical analysis and further multivariate statistical methods will be used to facilitate the solution of environmental problems and suggest clues for the understanding of some natural processes. The proposal will highlight the types of the pollutants present in the water samples collected from different areas and the factors affecting the concentration of each of the parameters. The finding will be helpful for the local government to plan the use and protection of groundwater resources. The government can make sustainable strategies for management of water by various awareness & training programs to educate people regarding consequences of over exploitation of natural resources.

3. Project title: Studies on Therapeutic Aspects of Nucleic Acid Aptamer-grafted-ROD Receptor Targeted Theranostic Chitosan-PLGA Nanoparticles for Brain Cancer Diagnosis and Treatment

Grant amount: Rs. 41,00,000/- (Rupees Forty One Lakh and Three Hundred Sixty only)

Funding agency: Science & Engineering Research Board (SERB), Department of Science & Technology (DST), Government of India

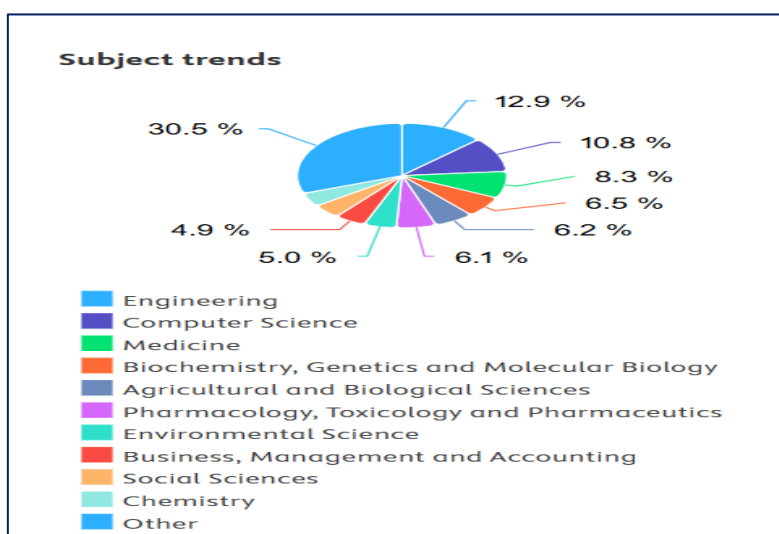


PI: Dr. Rahul Pratap Singh
Assistant Professor
School of Medical and Allied Sciences
GD Goenka University, Sohna, Gurugram, Haryana,
India

4. Type of Proposal - Academic
Funding Agency - DST-SERB
Reference number - EMR/2016/001085
Title of Project - Multivariate Analysis as a tool in Groundwater Quality Assessment of Mewat District
Investigators - PI: Dr. Priyanka Sharma, SoBAS, GDGU
Amount - ₹ 27,01,800.00
Date of submission - 2016
Status - Completed
Date of Completion - 2020
Status Till Date (Accepted/ Rejected/ Under-Evaluation) - Accepted and Completed
5. Type of Proposal - Academic
Funding Agency - DST-SERB
Reference number - EMR/2017/003714
Title of Project - Modelling and Simulation of Supernovae Light Curves: Connecting Observations with Theory
Investigators - PI: Dr. Shashikant Gupta, SoBAS, GDGU
Amount - ₹ 22,80,520.00
Date of submission - 2017
Status - Completed
Date of Completion - 2021
Status Till Date (Accepted/ Rejected/ Under-Evaluation) - Accepted and Completed
6. Type of Proposal - Academic
Funding Agency - DST-SERB
Reference number - EEO/2019/000218
Title of Project - Studies on Therapeutic Aspects of Nucleic Acid Aptamergrafted-RGD Receptor Targeted Theranostic Chitosan-PLGA Nanoparticles for Brain Cancer Diagnosis and Treatment
Investigators - PI: Dr. Rahul Pratap Singh
Amount - ₹ 41,00,360.00
Date of submission - 2019
Status - In Progress

b) Publication

GD Goenka University Scopus Publication



SDG 14 – Life Below Water - Publications - 13

S.No.	Type	Title	Authors	Journal / Book	Year
1	Review	Microplastics as emerging threats: advancement in biofilm interactions and remediation technologies	Kumari, S., Yadav, A.N., Rajput, P., Minkina, T.M., Rajput, V.D.	International Journal of Environmental Science and Technology	2025
2	Conference Paper • Open access	Wetland protection and Ramsar Convention: an empirical study of wetlands in Bihar, India	Pandey, S., Bansal, S., Vasmatkar, A.D., Dharangutti, Y.M.	E3s Web of Conferences	2025
3	Conference Paper	Climate Change and Threat to Coral Reefs of Lakshadweep, Laccadive Sea: An Analysis through Legal Lens	Bansal, S., Pandey, S., Avasthi, P., Chhuttani, P.	E3s Web of Conferences	2025
4	Review	Responses of natural plastisphere community and zooplankton to microplastic pollution: a review on novel remediation strategies	Rai, M., Dhanker, R., Sharma, N., ..., Du, Z., Mohamed, H.I.	Archives of Microbiology	2025
5	Review	Regeneration and reusability of non-conventional low-cost adsorbents to remove dyes from wastewaters in multiple consecutive adsorption–desorption cycles: a review	El Messaoudi, N., El Khomri, M., El Mouden, A., ..., Kumar, V., Américo-Pinheiro, J.H.P.	Biomass Conversion and Biorefinery	2024
6	Conference Paper • Open access	Spatiotemporal microplastic occurrence study of Harike wetland, A Ramsar wetland of India	Manzoor, S., Sharma, M., Singh, R.	Bio Web of Conferences	2024
7	Book Chapter	Fishing Gears and Nets as a Source of Microplastic	Sharma, D., Dhanker, R., Bhawna, B., ..., Raza, S., Sharma, A.	Microplastic Pollution	2024
8	Editorial • Open access	Editorial: Effects of microplastics on ecosystem functioning of eukaryotic marine microbes	Kumar, R., Dhanker, R., Américo-Pinheiro, J.H.P., Kumar, D., Hwang, J.	Frontiers in Ecology and Evolution	2024
9	Article	Understanding the Legacy of the Gulf Cooperation Council and Turkey on Bangladesh Politics	Sanyal, P.	Journal of Asian and African Studies	2023

10	Article • Open access	Microbial strategies for degradation of microplastics generated from COVID-19 healthcare waste	Dey, S., Anand, U., Kumar, V., ..., Bhat, S.A., Dey, A.	Environmental Research	2023
11	Article • Open access	Integrated application of macrophytes and zooplankton for wastewater treatment	Prakash, D., Kumar, R., Rajan, K., ..., Dhanker, R., Khudsar, F.A.	Frontiers in Environmental Science	2022
12	Review • Open access	Biological Approaches Integrating Algae and Bacteria for the Degradation of Wastewater Contaminants—A Review	Mathew, M.M., Khatana, K., Vats, V., ..., Dahms, H.U., Hwang, J.	Frontiers in Microbiology	2022
13	Book Chapter	Microbial Community Composition and Functions in Activated Sludge Treatment System	Dey, S., Anand, U., Bhattacharya, S., Kumar, V., Dey, A.	Omics Insights in Environmental Bioremediat	

4. Impact and Way Forward

GD Goenka University contributes to SDG 14 through sustainable water management, rainwater harvesting, responsible waste disposal, and biodiversity-friendly campus practices. Recognized with the Gold Category under the Green Campus Programme, the University integrates environmental stewardship into operations and academics. Moving forward, GDGU aims to strengthen water-quality monitoring, embed aquatic ecosystem conservation into research and curriculum, enhance community outreach, and implement targeted policies to prevent pollution. These measures will ensure continued protection of water resources, support ecosystem resilience, and reinforce the University's commitment to sustainable development.