



SDG 14: Life Below Water

**CONSERVE AND SUSTAINABLY USE THE OCEANS,
SEAS AND MARINE RESOURCES FOR
SUSTAINABLE DEVELOPMENT**

Our institute continues to be at the forefront of research, practices, and community outreach programs to advance Sustainable Development Goal 14: Life Below Water. This SDG is an essential component of the global sustainability agenda, emphasising the need to protect and sustainably manage marine and coastal ecosystems. With our commitment to environmental stewardship, we proudly report on our ongoing efforts to promote this goal and protect life below water.

Campus Biodiversity

Our campus boasts the presence of two natural water bodies, which have become vital ecosystems housing a diverse range of flora and fauna. These water bodies have not only enriched the campus environment but also served as living laboratories for research and education. The institute acknowledges the critical importance of preserving these aquatic habitats and actively supports their protection and sustainable management.

Plastic Reduction Initiatives

In line with our commitment to SDG 14, we have continued our initiatives to promote sustainable practices on campus. One of our most prominent efforts is the reduction of plastic usage. Single-use plastics pose a significant threat to marine environments. To address this concern, we have taken proactive steps to discourage single-use materials, especially plastics. By promoting reusable materials and reducing plastic waste, we contribute to the prevention and reduction of marine pollution, especially from land-based activities.

Our endeavours include awareness campaigns, waste reduction programs, and the provision of alternatives to single-use plastics on campus. We have also collaborated with local communities to spread the message of sustainable plastic use and proper waste disposal.

RESEARCH

Our institute is home to a dedicated team of more than ten researchers actively engaged in various fields related to rivers, seas, and oceans. Their work spans many topics, including the study of phytoplankton blooms, hydrometeorological processes, marine boundary layers, groundwater discharge, marine pollution, and more. The collective efforts of these researchers have resulted in the publication of approximately ten research papers in the years 2021 and 2022, demonstrating our commitment to advancing knowledge in these crucial areas.

In addition to publications, our institute is actively involved in several research projects focusing on marine and aquatic sciences. Some examples of these ongoing projects include:

1. Flood Risk Assessment in Tropical Rivers: Our researchers are working on assessing flood risks in tropical rivers during the Anthropocene era under changing climate scenarios. This research employs hydrogeomorphic modelling techniques to understand and predict the impacts of climate change on river systems. The Ministry of Human Resource Development supports this project. The institute is pioneering an experimental operational hydrologic modelling and forecasting system for river basin hydrology and extremes in India. This project, in collaboration with the Indian Institute of Tropical Meteorology, aims to enhance our understanding of river basin dynamics and improve forecasting capabilities.

3. Impacts of Climate Variability on Water Resources: Researchers at our institute are investigating the effects of climate variability and climate change on water resources in the Sabarmati River basin. This research, supported by the Ministry of Water Resources, plays a critical role in understanding the challenges and opportunities of changing climate patterns in the region.

These ongoing research endeavours reflect our dedication to contributing to the sustainable management of rivers, seas, and oceans and addressing the complex challenges of climate change and environmental shifts in these crucial ecosystems.

OPERATIONS

Waste Reduction and Segregation Initiatives

Our commitment to sustainable practices extends to waste reduction and segregation. Constant reminders about the importance of reducing and segregating waste are integrated into various aspects of our operations. Notably, initiatives are implemented to encourage reusable materials and discourage single-use items, focusing on reducing plastic consumption.

For instance, across our campus, only reusable bottles, glasses, cutlery, and plates are utilised at tea stalls, meetings, and conferences. The use of disposable packaging items is either not allowed or strongly discouraged. A longstanding "green bottle initiative" has been in place, encouraging campus staff, students, faculty, and visitors to opt for reusable green water bottles rather than single-use plastic ones. In meetings and guest accommodations, these green water bottles have become the standard, and we are progressively transitioning to reusable glass bottles as an even more sustainable choice.

Water Quality Monitoring and Maintenance

Ensuring the quality of our water resources is a critical aspect of our environmental stewardship. The Institute Works Department consistently monitors and documents essential water quality parameters such as pH, turbidity, Total Dissolved Solids (TDS), and chlorine. Water samples are regularly collected and sent to accredited laboratories for thorough analysis. This rigorous monitoring ensures that our water supply complies with state and national-level pollution control regulations. By maintaining high water quality standards, we contribute to protecting ecosystems, wildlife, and the well-being of our community.

Hazardous Waste Management

The responsible disposal of hazardous materials is a top priority for our institute. A designated agency is entrusted with the collection and safe disposal of chemical waste generated in our laboratories. Dedicated areas are allocated on-site for storing construction materials, with careful segregation of construction waste, reducing the environmental impact of construction activities. This meticulous handling and disposal of hazardous materials demonstrate our commitment to environmental safety and sustainability.

COMMUNITY OUTREACH

Our commitment to SDG 14 extends beyond our campus boundaries. We actively engage in community outreach programs that raise awareness about marine conservation and preserving life below water. By organising workshops, seminars, and coastal cleanup activities, we aim to inspire and educate the broader community, creating a collective sense of responsibility for our oceans and water bodies.

On October 20, 2021, the Dr. Kiran C Patel Centre for Sustainable Development (KPCSD) at the Indian Institute of Technology Gandhinagar (IITGN), in collaboration with PricewaterhouseCoopers (PwC) and with the support of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, New Delhi, organised a webinar entitled 'Advancing Frontiers of Knowledge on Climate Action: Cross-sectional Approaches for Mitigation and Resilience.' This e-webinar garnered significant interest, with an impressive attendance of nearly 100 scientists and practitioners from diverse regions worldwide. Professor Vimal Mishra, Co-coordinator of KPCSD, expertly hosted the event.

The webinar served as a platform for exchanging knowledge, insights, and innovative approaches to address climate change, with a specific focus on strategies for both mitigation and resilience. The collaborative effort of KPCSD, PwC, and GIZ highlights the importance of interdisciplinary approaches and global cooperation in tackling the complex challenges posed by climate change. It provided an invaluable opportunity for experts and professionals to come together, discuss, and share their expertise in pursuing sustainable climate action. This webinar was a testament to our commitment to advancing climate action and finding comprehensive solutions to the global climate crisis. It exemplifies the power of collaboration and knowledge-sharing in addressing one of the most pressing issues of our time.

As we move forward, our institute remains dedicated to the principles and objectives of Sustainable Development Goal 14: Life Below Water. We recognize that the protection and sustainable management of marine and coastal ecosystems are vital for the well-being of our planet and future generations. Our efforts to reduce plastic usage and promote environmental awareness continue to make a positive impact, and we are committed to furthering our initiatives to safeguard life below water.