



SDG 14: LIFE BELOW WATER

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

The institute has been undertaking research, practices and community outreach programmes related to the Sustainable Development Goal 14: Life below water. The campus has two natural water bodies, which is home to a diversity of flora and fauna. The institute takes initiatives to promote reusable materials and discourage single-use materials (especially plastic), which helps in preventing and reducing marine pollution of all kinds, in particular from land-based activities.

Research

At least 10 researchers at the institute work on areas related to rivers, seas and oceans; such as the role of phytoplankton blooms, hydrometeorological processes, marine boundary layers, etc., that resulted in about 10 publications during the years 2019 and 2020. Research projects are also undergoing at the institute in this sphere, examples of which include:

- Flood risk assessment in tropical rivers in the anthropocene under climate change scenario using hydro geomorphic modeling; Ministry of Human Resource Development
- An experimental operational hydrologic modeling and forecasting system for river basin hydrology and extremes for India; Indian Institute of Tropical Meteorology
- Impacts of climate variability and climate change on water resources in the Sabarmati river basin; Ministry of Water Resources

Operations

Constant reminders of the need to reduce and segregate waste are made on all possible occasions, such as initiatives to promote reusable materials and discourage single-use materials (especially plastic). For instance, only reusable bottles, glasses, cutlery and plates are used in the tea stalls and at meetings and conferences, etc.; the use of disposable packaging items is not allowed/discouraged.

A green bottle initiative has been in place for several years throughout campus, where campus staff, students, faculty and visitors are all encouraged to use reusable green plastic water bottles rather than single-use plastic water bottles. In meetings, green water bottles, and increasingly glass bottles, are provided and guest apartments are also provided with such bottles. In recent months, reusable green plastic bottles are being replaced with reusable glass bottles.

The basic water quality parameters, including pH, turbidity, TDS and chlorine are monitored and documented regularly by the Institute Works Department. Samples of water are collected and sent to laboratories for analysis to ensure compliance with the state and national level pollution control regulatory framework. This exercise helps in assessing and preventing any polluted water from entering the water distribution system and to uphold water quality in order to protect ecosystems, wildlife, and human health and welfare.

Waste disposal of hazardous materials is carefully handled, including the collection of the chemical waste of the labs by a designated agency. Dedicated areas are provided to store construction materials on site. Construction waste is segregated and also stored at different locations. Separate

storage facilities for inert and hazardous construction wastes are allocated and measures are employed for its safe disposal/recycling. Scrap materials are sent to a waste recycling facility.

Education

Courses offered by the institute include:

CE 201 Earth Materials and Processes

CE 624: River Engineering

EH 301: Field Practices in Earth System Sciences

EH 602: River Morphology and Ecology

EH 604: Quantitative Geomorphology

ES 652: Introduction to Electrical Systems

Field courses of a few disciplines such as Humanities and Social Sciences, Earth Sciences, Civil Engineering are also oriented to life below water.

Invited lectures as follows were organised by the institute:

- 'The Food-water Quality Nexus in Periurban Aquacultures Downstream of Bangkok, Thailand' by Prof David Werner, Newcastle University on 17 September, 2019
- 'Finding the Voice of the River' by Prof Gary Brierley, University of Auckland on 4 November, 2019
- 'Abrupt Climate Anomalies Recorded in Lacustrine and Marine Sediments during the Quaternary' by Dr Yama Dixit, Earth Observatory of Singapore Nanyang Technological University on 11 December, 2019

Community outreach

Sagarmala Programme

The institute hosted its fourth Dr A N Khosla lecture on 7 September 2019, organised by IIT Roorkee Alumni Association Ahmedabad Chapter (IITRAAA). Dr Dilip Kumar Gupta, MD, Sagarmala Development Company Limited (SDCL), and Director, Projects, delivered a lecture on *Vision of Sagarmala and the Role of SDCL*. Dr Gupta explained various aspects of the ambitious Sagarmala programme of the government of India, aimed at promoting port-led development in the country. It envisions reducing logistics cost for cargo, with an enhanced infrastructure investment.

Speaking on the vision and objectives of the programme, Dr Gupta elucidated that the project which envisaged a total investment of over INR 8 lakh crore will not only reduce logistics cost for both EXIM (export-import) and domestic trade but will also create jobs and bridge skill gap in the ports and maritime sector. Port modernisation, port connectivity, port-led industrialisation and coastal community development were highlighted as the four pillars of Sagarmala programme for port-led development.

KPCSD Sustainability Seminar Series

The Dr Kiran C Patel Centre for Sustainable Development conducts regular events on topics related to sustainable development, that are targeted for a general audience. The events are kept open to all, and the events are announced through emails, social media channels, etc. to ensure participation from all interested. Some of the webinars covered topics related to freshwater availability, reviving and strengthening traditional technologies for water security, threats to food and drinking water security, etc.

