



SDG 15: Life on Land

PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS

The IITGN campus is located near the Sabarmati River. The Masterplan was prepared in a way that ensured minimum impact on the river and its ecosystem by isolating the development from the river. An emphasis was laid on preserving natural lakes and drainage patterns to the extent possible. The institute organises and supports activities and initiatives aimed at promoting conservation and sustainable utilisation of the land, including forests and wild land. Faculty at different disciplines, majorly the Humanities and Social Sciences, Earth Sciences and Civil Engineering are engaged in research work related to life on land including human-wildlife interactions, wildlife conservation, etc.

Research

Considerable research is ongoing at the institute in areas related to natural resources and ecosystems. Researchers at the institute have published articles related to the constructed wetland system, coastal population and ecosystems, etc in the year 2020-21.

Education

Other courses on the environment included the following:

CE 202: Sustainability and Environment

CE 303: Geospatial Engineering

CE 309: Field Survey Project

CE 605: Remote Sensing of Land and Water Resources

CH 517: Bioinorganic Chemistry

EH 301: Field Practices in Earth System Sciences

EH 302: Elements of Earth System Science

EH 601: Earth Surface Processes in the Anthropocene

EH 606: Critical Zone System Science

EH 608: Biodiversity Conservation and Sustainable Development

A short course on 'Nature-Inspired Design' was undertaken by Mr Sanjay Jain, Professor, SAGE Institute of Design, during March 20 to April 24, 2021.

Community Outreach

Workshop on Human-animal Relations at the Margin

IITGN organised an online workshop on 'Human-animal Relations at the Margin: A Quest for Social Justice' on August 17, 18 & 20, 2021. Relations between humans and animals are multifaceted. The various ways of perceiving the 'conjoint' living have been analysed and examined from multiple perspectives and disciplinary lenses. The workshop attempted to understand the differences in the social and the order of nature through Dalit, Bahujan and tribal texts, artwork, images, symbols, and icons. It explored the meaning-making processes by examining animal metaphors in marginalised communities' lived experiences to seek social justice.

Organic Farm

The IITGN organic farm grows several varieties of vegetables, such as cabbage, cauliflower, tomato, brinjal, potato, cucumber, bottle-gourd, ladyfinger, spinach, fenugreek, carrot, beetroot, cluster beans, long beans, chillies, green garlic, green tuwar and coriander, etc. It also cultivates special vegetables like broccoli, kale, zucchini, lettuce, pumpkin, etc. Farm activities are being expanded by growing millets and wheat. It uses only completely organic fertilisers for growing various crops. Community members participate in the volunteer programme and contribute to the organic farm activities. The organic farm produce is sold to the community. The ground floor apartments of staff and faculty have been provided with kitchen gardens. The organic farm group has delineated spaces in housing areas for kitchen gardens and encouraged residents to actively participate and grow vegetables and fruits of their own choice. Adequate guidance and materials are provided by the organic farm representatives.

Operations

The campus development establishes a planned system of open spaces and vegetation and a broad landscape structure that is responsive to specific landscape qualities of the site. Two seasonal ponds situated in slightly low lying areas amidst the former agricultural fields have been retained and integrated with the storm water management system. They are used as landscape assets, helping in reducing the urban heat island effect and improving the microclimate and serve as habitat for native flora and fauna, with high ecological value. The boundary edge along the river is the subject of land rehabilitation and soil conservation and is stabilised through erosion control measures and plantings.

Emphasis has been placed on using native species of trees and plants in the campus landscaping, retaining a majority of the existing trees through careful siting of buildings and tree transplantation for some existing trees. IIT Gandhinagar campus, spread over an area of more than 400 acres, has varied habitats which are home to a rich biodiversity. A biodiversity survey was initiated in 2017 and still under progress, considering the need to survey different biodiversity elements in different seasons over different years. This survey is conducted in collaboration with Gujarat Ecological Education and Research Foundation. The survey conducted so far has reported over 120 and 150 major floral and faunal species respectively.

The IITGN campus has been constructed in an area which hosted several native animals, such as dogs, nilgais, langurs, hare, snakes, etc. Such infrastructural developments often lead to human-animal conflicts. It is necessary that the practices followed within the campus are humane and ethical and a general resident may be unaware of all aspects of their behaviour towards animals. The institute has issued an advisory on animal management within IITGN campus which lays down a set of humane and ethical practices to minimise human- animal conflicts and ensure smooth functioning of the institute processes.

Waste disposal of hazardous materials is carefully handled, including the collection of the chemical waste of the labs by a designated agency. 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. The basic water quality parameters, including pH, turbidity, TDS and chlorine are monitored and documented regularly by the Institute Works Department. This 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.