URGENT

Co-funded by the Erasmus+ Programme of the European Union

Urban Resilience and Adaptation for India and Mongolia

Curricula, capacity, ICT and stakeholder collaboration to support green & blue infrastructure and nature-based solution

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STAKEHOLDER COLLABORATION

Nirma University (P12) and GIFT-City Company Ltd (P16)

To promote stakeholder collaboration, Nirma University (P12) and Gujarat International Finance Tec-City Company Limited (P16) conducted a visit to Gift-City under URGENT Project. This exercise falls under work package 4.3: seminars for administrators and stakeholders and other onsite events. On 18th April 2022, a group of 28 BArch students from the Institute of Architecture and Planning, Nirma University (P12) went to GIFT-City for a site visit for their course Infrastructure Planning. Infrastructure Planning is one of the courses at Nirma University which is also included in the URGENT Project for curriculum development (WP 2.1: Revision of existing and development of new MSc/BSc courses).

The aim of the visit was to explore and understand various technologies and considerations taken to develop and maintain the GIFT-City. The students were taken to the utility tunnel, sewage treatment plant, water treatment plant and commercial and residential complexes to comprehend the sustainable approach taken by Gujarat International Finance Tec-City Company Limited in GIFT-City. The following are the professionals, faculties and students who participated in this visit:

Nirma University (P12)	**Gujarat International Finance Tec-City Company Limited (P16)**
Dr Swati Kothary	Mr Lovleen Garg
Ms Mansi Kumar	Mr Rakesh Kumar Patra
Students from Nirma University	
Yash Rathod	Bhavsar Drashti Ashishkumar
Gresha Shah	Jain Samiksha Tansukhraj
Agharia Faiz Mohasinali	Jhaveri Sujan Anand
Ruparelia Mahek Hirenkumar	Neha Agarwal
Radhika Vinodkumar Totla	Nimbark Yashvee Deepakbhai
Satnam Kaur	Patel Namankumar Mukesh

Suthar Nikhil Dasharathbhai	Prajapati Punit Mukeshkumar
Varsat Kaustubh Rajeshkumar	Pranav Mukesh Kodrawala
Anushka Ashish Chokshi	Sanjoli Kumawat
Arya Kothari	Yashvi Virendrakumar Patel
Bakrania Neha Chandrakant	Pathan Ayazali Jamilkhan
Hetsi Jani	Kunj Darshanbhai Padiya
Jain Nomita Nirmalkumar	Shaikh Faizhusain Imtiyazhusain
Moomal Purohit	Shalvi Shah

GREEN INFRASTRUCTURE

Commercial Building – Tower 1

Students were first taken to tower 1 to explain the master plan of GIFT-City and to show the aerial view of the city. Student's discussed various aspects regarding GIFT-City like the importance of the city, green buildings, city's municipality, etc. As Tower 1 is a 'gold' certified green building, students were able to understand and witness the green features.

Student's discussing the master plan (left); Aerial view of GIFT City (bottom)

Green Township

The GIFT-City is awarded the green cities 'platinum' certification by CII's Indian Green Building Council (IGBC). The students observed the blue and green infrastructure of GIFT-City and tried to correlate the same with their learnings in the Infrastructure Planning course.

Students with Mr Patra on the streets of GIFT-City discussing the features of Green Township (Left)

BLUE INFRASTRUCTURE

Water Treatment and Supply

Employees explaining the water supply system to the students (top)

The students were next taken to the water treatment plant and water supply control room. The water management system was automated and provided drinkable cool water to

all the buildings in GIFT-City. The wastage of water due to leakage or over flooding of the water tanks is monitored from the control room. The treatment plant was adjacent to the control room. In the treatment plant, many processes (RO treatment, cooling of water, addition of various minerals, etc.) were done to achieve the purity required for drinkable water.

Sewage Treatment Plant

The students also visited the sewage treatment plant which was set up at the lowest level of the city. Therefore, due to gravity, the sewage would flow toward the sewage treatment plant without any additional power. The treatment was done in three stages – primary, secondary and tertiary, and in an enclosed area to reduce the smell.

Students exploring the sewage treatment plant (top)

SUPPORTING FACILITIES FOR BGIs

Solid Waste Management

The students also visited the solid waste management plant which was next to the sewage treatment plant. The solid waste management system is automated so people, who in the first place shouldn't be involved, get excluded from the process. As a part of the solid waste management, there is an Automated Waste Collection System through a chute system. The waste is sucked through pipes which are present in the utility tunnel at a speed of 90 km/hr. The Waste Treatment is done through Plasma Technology.

Mr Patra explaining the solid waste management system to the students through a model (top)

Utility Tunnel

To understand how the services were transported efficiently in GIFT-City, the students were also taken to the Utility Tunnel. With respect to vast infrastructure systems, GIFT developed the vision of a “DIGGING FREE CITY” by placing all the utilities in a TUNNEL across the city to avoid the excavation of roads in future. The Utility Tunnel accommodates all the

utilities including power cables, raw water supply pipeline to the water treatment plant (WTP) as well as treated water supply pipeline from WTP to various developments, chilled water supply from District Cooling Pipe (DCP) to various developments and return pipeline to DCP, ICT cables, Automated Waste Collection pipeline, fire hydrant water pipeline, etc. From a safety point of view, the tunnel is divided into WET and DRY sections which are physically separated from each other.

Students in the underground Utility Tunnel (top)

District Cooling System

Students were also able to observe a new form of infrastructure, the District Cooling System. When compared to standard air conditioning systems, a district cooling system is an energy-efficient and sustainable air conditioning system that saves up to 30% of energy. The chilled water is distributed through pipelines which are present in the utility tunnel. The Energy metering and control are done through SCADA (Supervisory Control and Data Acquisition).

Residential Building

The last visit was to SOBHA's residential sample flats in GIFT-City. The students discussed with SOBHA's employees various architectural and construction techniques used to design and construct premium residential towers at GIFT-City.

Students discussing with Sobha's employee (top-left); Group photograph with all stakeholders at Sobha (top)