TERI SCHOOL OF ADVANCED STUDIES PLACEMENT BROCHURE

2020-21

M. Tech. (Urban Development Management)

teri school of advanced studies

KNOWLEDGE FOR SUSTAINABLE DEVELOPMENT
(DEEMED TO BE UNIVERSITY UNDER SECTION 3 OF THE UGC ACT)
ACCREDITED BY NAAC

CHANCELLOR'S MESSAGE

With a vision to accelerate the transition towards a more sustainable world through the creation of knowledge and capacity development, TERI School of Advanced Studies (TERI SAS) aims at developing a rich talent pool of post-graduates and researchers focusing on making environment sustainable for future generations. Today, the Institute's alumni are spread across multi-national organisations, corporates, NGOs, consultancy networks, government bodies and research institutions globally.

A robust, inter-disciplinary curriculum coupled with scientific research on sustainability solutions, lay the foundation for students to build domain expertise and appreciate systemic approach to problem solving. Through research projects, industry exposure and field visits, the curriculum hones the right skills amongst students to build long-standing relationships and collaborations with research institutions and organisations even after they graduate from the university. A continuous feedback process from students, national and international academic peers and internship project recruiters is an essential part of the curriculum and helps in continuous improvement. A global exposure to students with frequent international exchange programmes and guest lectures by renowned national and international academia ensures that students are well versed with adapting to a multi-cultural working environment.

I am certain that our students are well tuned to the current industry trends and will be a great asset to any organisation!

DR SHAILESH NAYAK
CHANCELLOR, TERI SAS

VICE CHANCELLOR'S MESSAGE

Dear Recruiters,

I am immensely proud to introduce you to our graduating batch of 2019-21 and delighted to invite you to our campus for the annual round of placements.

We are still fighting an unprecedented crisis, Covid 19! It is one of the toughest times mankind has ever faced in modern times! It's the most challenging time that has already impacted our life and brought a different discourse of education and career! However, there is always a light at the end of the tunnel! Covid is also making us all stronger day by day! It has forced us to go online in almost spheres! But the fact of the matter lies in our continuous journey to enable our students to face newer challenges! I am confident, they wouldn't disappoint you this time too! You will find our young energetic graduates who are sustainable enough to face and handle every situation to add value to themselves and the organizations they would work for!

I am sure that it is not the first campus visit for many of you. Possibly, some of your recruiting officials have also been our former students. I am thankful to you for appreciating the qualities of our graduates and renewing the valued relationship we share with you. For those of you who are new to our campus, I intend to say a few words introducing you to our philosophy and its execution.

The goal of our coveted master's programmes is to create professionals for a sustainable future. As you know, meeting the challenge of climate change while addressing poverty and deprivation in various dimensions is the biggest and most complex challenge facing mankind. Creating a sizeable workforce of professionals who can deal with such large and complex challenges that invite both scientific and policy-based interventions requires specialized training that we aim to provide.

The first two semesters of core coursework provides the base of this training, followed by exposure to a variety of optional courses across programmes in the third. The next semester is usually spent on working on a major project with a corporate/government organisation. Some of the students also work on dissertations under close supervision by a faculty member. Thus the students are introduced to major theories and applications in their chosen field of specialization, exposed to major intellectual challenges of our times, and provide effective solutions to real-life situations. You will find more specific information about the programme you are interested in this brochure.

Our award-winning curriculum development, a young and enthusiastic faculty comparable to that in some of India's top universities in terms of background, research and teaching, and our relentless engagement with the external world makes our graduates very well sought in diverse fields. Our alumni hold coveted positions at corporates, think tanks, government, research institutes, NGOs and international organizations. Many of our graduates have gone for higher studies in top national and international universities, and several have stayed with us for their Ph.Ds.

I welcome you all to pick the best in our country!

Thanks and regards!

Dr Manipadma Datta
Vice Chancellor, TERI SAS

ABOUT TERI SAS

TERI SAS (earlier TERI University) was established to disseminate the vast reservoir of knowledge devised by The Energy and Resources Institute (TERI), a not-for-profit, independent research institute recognized globally for its contribution to scientific and policy research in the realms of energy, environment, and sustainable development.

In 1999, the Institute was granted the 'Deemed to be University' status by the University Grants Commission (UGC) and notified vide the Ministry of Human Resources Development, Department of Education, Government of India, notification no. F.9/19/95-U-3, dated October 5, 1999. TERI SAS is also accredited by National Assessment and Accreditation Council (NAAC).

TERI SAS' academic programmes are envisioned to provide students with a holistic perspective of the subjects offered and encourage interdisciplinary learning. The deemed to be University aspires to be an institution of advanced learning which meets the needs of a rapidly growing nation. TERI SAS uses modern pedagogical tools, richly supplemented by field visits, live industry projects, and hands-on applications.

ADMINISTRATION

The Institute's Board of Management is responsible for its overall administration and control. All aspects of academic policy are under the purview of the Academic Council, chaired by the Vice Chancellor, which approves curricula, courses and examination results.

BOARD OF MANAGEMENT

Chairman	Deans	
DR. MANIPADMA DATTA *Professor & Vice Chancellor (Acting), TERI SAS*	**DR. ARUN KANSAL** *Professor & Dean (Academic), TERI SAS*	**DR SHALEEN SINGHAL** *Professor & Dean (Research & Relationships), TERI SAS*

Three eminent Academicians nominated by Chancellor

DR. ESWARAN SOMANATHAN *Professor, Indian Statistical Institute*	**DR. GEORGE JOHN** *Former Vice Chancellor, Birsa Agricultural University, Ranchi and Former Sr. Advisor, DBT, Govt. of India*	**DR. SACHIN CHATURVEDI** *Professor & Director General, Research and Information System for Developing Countries (RIS)*

Nominee of Sponsoring Society

MR. R R RASHMI *Distinguished Fellow & Programme Director, TERI*	**DR. NIMMI SINGH** *DGM (Chem.) – PM, Oil and Natural Gas Corporation Limited*	**DR. BHIM SINGH** *Chair Professor, Department of Electrical Engineering , Indian Institute of Technology, Delhi*	**DR. V.P. SINGH** *Professor, Regional Rep for South Asia International Centre for Tropical Agriculture*

Two teachers (from Prof and Associate Prof)		Secretary
DR. RAMAKRISHNAM SITARAMAN *Professor, TERI SAS*	**DR. VISHNU KONOORAYAR** *Associate Professor, TERI SAS*	**MR. KAMAL SHARMA** *Officiating Registrar, TERI SAS*

THE ACADEMIC COUNCIL

Chairperson	Deans	
DR MANIPADMA DATTA *Professor & Vice Chancellor (Acting), TERI SAS*	**DR. ARUN KANSAL** *Professor & Dean (Academic), TERI SAS*	**DR SHALEEN SINGHAL** *Professor & Dean (Research & Relationships), TERI SAS*

Heads of the Departments

DR ARUN KANSAL *Professor, Department of Regional Water Studies*	**DR SUDIPTA CHATTERJEE** *Associate Professor, Department of Natural Resources*	**DR SHASHI BHUSHAN TRIPATHI** *Associate Professor, Department of Biotechnology*
DR SUKANYA DAS *Associate Professor, Department of Policy Studies*	**DR VISHNU KONOORAYAR** *Associate Professor, Centre for Post Graduate Legal Studies*	**DR KAMNA SACHDEVA** *Associate Professor, Department of Energy & Environment*

Professors

PROF. PRATEEK SHARMA	**PROF. SITARAMAN RAMAKRISHNAM**	**PROF. ANANDITA SINGH**

Two Associate Professors from Departments

DR NANDAN NAWN	**DR VINAY S. PRASAD SINHA**

Two Assistant Professors from the department by rotation of seniority

DR NITHIYANANDAM YOGESWARAN	**DR AKASH SONDHI**

Nominee of Vice Chancellor

DR. VIVEK SUNEJA *Professor of Strategy, Faculty of Management Studies (FMS), University of Delhi*	**DR. T C KANDPAL** *Professor, Centre for Energy Studies, Indian Institute of Technology Delhi*	**PROF. ARUN S. KHARAT** *School of Life Sciences, & Director, Internal Quality Assurance Cell (IQAC), Jawaharlal Nehru University, New Delhi*

Co-opted Members

MS. RANU KAYASTHA BHOGAL *Director, Policy Research and Campaigns at Oxfam India*	**MR MANOJ CHUGH** *President – Group Public Affairs & Member of the Group Executive Board Mahindra & Mahindra Ltd*	**MR RAJESH AYAPILLA** *Director-CSR and Sustainability for India and South-West Asia, The Coca Cola Company*

Secretary	Controller of Exams
MR. KAMAL SHARMA, *Officiating Registrar*	**DR SEEMA SANGITA**

ACADEMICS

Since its inception, the wide array of academic programmes offered by TERI SAS have been related to sustainable development and structured around four thematic areas—biotechnology, regulatory and policy aspects, energy and environment, and natural resources. The Institute is a first-of-its-kind in India to dedicate itself to the study of environment, energy, law, water resources, business sustainability and natural sciences for sustainable development.

DEPARTMENT OF NATURAL RESOURCES

The Department of Natural Resources aspires to advance and impart knowledge on Environment and Natural Resources including their characteristics, dynamics, economic and societal values and management in an ecologically, socially, technically and economically sound and sustainable manner.

DEPARTMENT OF ENERGY AND ENVIRONMENT

The Department of Energy and Environment aspires to address the challenges related to Energy and Environmental Resources Management through teaching, research and capacity building.

DEPARTMENT OF BIOTECHNOLOGY

The Department of Biotechnology is committed towards scientific excellence in the field of Biotechnology through capacity building and knowledge development.

DEPARTMENT OF POLICY STUDIES

The Department of Policy Studies promotes academic excellence and develops expertise to influence and contribute to public policy and decision making through teaching, research and training.

COCA-COLA DEPARTMENT OF REGIONAL WATER STUDIES

The department aims to advance knowledge and build core competencies among students, researchers, policymakers, and professionals in order to equip them to tackle the interwoven challenges of water sustainability.

DEPARTMENT OF BUSINESS AND SUSTAINABILITY

The Department of Business and Sustainability was established with the mission to create a pool of human resources through evidence and research-based learning which would serve the industry with an integrated approach to sustainability in management practices.

CENTRE FOR POST GRADUATE LEGAL STUDIES

The Centre aims to be an interdisciplinary centre of excellence dedicated to legal research and teaching on issues pertaining to society and development.

CENTRE FOR DISTANCE LEARNING

The distance learning programmes of TERI SAS provide the flexibility to learn at one's own pace and convenience giving an opportunity for working professionals, representing the business value chain, to obtain a Diploma through distance mode.

PROGRAMMES OFFERED

At present, the following programmes are offered at TERI SAS:

❖ Ph.D.

❖ M.Sc. (Environmental Studies and Resource Management)

❖ M.Sc. (Geoinformatics)

❖ M.Sc. (Climate Science and Policy)

❖ M.Sc. (Plant Biotechnology)

❖ M.Sc. (Economics)

❖ M.Sc. (Water Science and Governance)

❖ M.A. (Public Policy and Sustainable Development)

❖ M.A. (Sustainable Development Practice)

❖ MBA (Infrastructure Management)

❖ MBA (Sustainability Management)

❖ M.Tech. (Renewable Energy Engineering and Management)

❖ M.Tech. (Urban Development Management)

❖ M.Tech. Water Resources Engineering and Management

❖ LL.M. (specialization in Environment and Natural Resources Law; and Infrastructure and Business Law)

❖ Advanced PG Diploma in Renewable Energy (Distance Education Mode)

COLLABORATIONS

Acknowledging the importance of the international perspective in its programmes, TERI SAS has entered into Memorandums of Understanding (MoUs) with several international universities aimed at facilitating a mutually beneficial exchange of students, faculty, knowledge, resources, and ideas.

- ❖ Freie University, Berlin
- ❖ The Heller School for Social Policy and Management, Brandeis University
- ❖ Grassroots Research and Advocacy Movement, Mysore, Karnataka, India
- ❖ University of Rhode Island, USA
- ❖ Carleton University, Canada
- ❖ APC-Colombia, Colombia
- ❖ Himalayan University Consortium Charter
- ❖ University of Iceland
- ❖ Sambhram Institute of Technology, Bangalore & TERI, Bangalore
- ❖ The University of the West Indies, Kingston, Jamaica
- ❖ Indian Institute of Public Health, Gandhinagar, Gujarat, and VITO-NV, Belgium
- ❖ Environment Protection Training and Research Institute, Telangana, India
- ❖ Karl-Franzens-University, Graz; Ca'Foscari University, Venice; Leipzig University, Germany; Utrecht University, Netherlands; Basel University, Switzerland; Hiroshima University, Japan; Stellenbosch University, South Africa
- ❖ Ananth Technologies Ltd., Hyderabad, India
- ❖ Fraunhofer-Gesellschaft, Munich
- ❖ Gurugram Metropolitan Development Authority, Haryana
- ❖ Institute for Future Cities, University of Strathclyde, Glasgow, United Kingdom
- ❖ University of Technology, Eindhoven, The Netherlands
- ❖ Concordia University, Canada
- ❖ Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
- ❖ Future Himalaya Institute (FHI), Kathmandu, Nepal
- ❖ Faculty of Graduate Studies, University of Sri Jayewardenapura, Sri Lanka
- ❖ National Institute of Disaster Management (NIDM), India
- ❖ Purbanchal University, Nepal
- ❖ The University of Victoria, B.C., Canada

- ❖ Deakin University, Australia
- ❖ SM Sehgal Foundation, Gurugram
- ❖ CPWD, New Delhi
- ❖ University of Science, Engineering and Technology, Gambia
- ❖ Lomonosov Moscow State University
- ❖ Mahindra & Mahindra Ltd.
- ❖ Humboldt University, Berlin
- ❖ EKI-Energy Services Limited

INFRASTRUCTURE

TERI SAS provides the best equipment and instruments, which includes state-of-the art computer hardware and software, well-equipped laboratories, video-conferencing facilities and access to South Asia's most comprehensive library on energy and environment.

GREEN CAMPUS

Spread over two acres, TERI SAS' Green campus comprises of an administrative block, an office block, a convergence and a hostel block. The green campus provides a setting that enhances learning while simultaneously showcasing the concept of modern green buildings including insulation of external walls, terrace insulation, Hunter Douglas louvers, solar water heating system, waste water recycling, rainwater harvesting, solar rooftop system, LED lights and Windmill.

LABORATORIES

TERI SAS' laboratories are equipped with advanced equipment and facilities to aid and stimulate research. The different laboratories at TERI SAS are:

ENVIRONMENTAL MONITORING LABORATORY

The lab provides practical training on all kinds of relevant soil, water and air monitoring experiments.

HEAT TRANSFER LABORATORY

The lab provides introduction to measurement techniques in basic heat transfer processes and provide hands-on training on heat transfer process experiments.

COMBUSTION LABORATORY

The lab provides performance testing of cookstoves based on energy efficiency as well as emissions using nationally and internationally accepted protocols.

POWER SYSTEMS LABORATORY

The lab provides fundamental experiential knowledge through hands-on experiments on different equipments used in electrical power system at various loading conditions.

CENTRE OF EXCELLENCE IN THERMAL ENERGY STORAGE

The Centre envisages to work on basic and applied research including new material development, low and medium temperature application, sub-ambient and low temperature application.

HYBRID MICRO GRID (HMG) LABORATORY
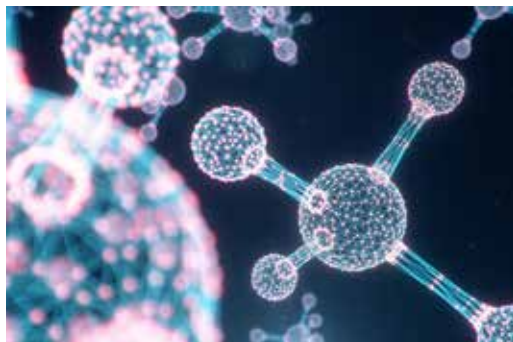
The lab is a research facility used for carrying out power flow experiments.

SOLAR LIGHTING LABORATORY

The lab is a first-of-its-kind laboratory in India. The lab has outdoor and indoor facilities to conduct experiments on characterization of solar photovoltaics modules and performance analysis of various solar thermal devices.

ENERGY SIMULATION LABORATORY

The lab is equipped with the current software used in Renewable Energy industry, the lab provides basic understanding of software usage and exercises focussed on in-depth analysis of various applications.

GEOINFORMATICS LABORATORY

The lab acts as a hub for all geospatial research activity catering to several Masters programmes that apply geospatial technology in their respective domains.

BIOFUEL AND WASTE UTILIZATION LABORATORY

The lab is used to conduct research experiments on combustion process, fuel properties, biomass conversion and pyrolysis.

ANALYTICAL AND GEO-CHEMISTRY LABORATORY

The lab is used to do research in understanding the Earth Sciences problems and helps in coming up with sustainable solutions to the issues.

BIOTECHNOLOGY LABORATORY

The lab is equipped for teaching and research in Plant Biotechnology and provides training on good laboratory practices (GLP), lab safety and safe disposal of laboratory waste.

LIBRARY

One of the key infrastructures of TERI SAS is its well developed and centrally organised Library. The library has a number of electronic services and an ever-wider range of resources in order to support teaching, learning and research. The Library also engages in partnership initiatives with academic colleagues and national and international universities. The services are offered electronically through a web-enabled integrated digital information system.

M. TECH. URBAN DEVELOPMENT MANAGEMENT: PROGRAMME OVERVIEW

India is projected to add 300 million new urban residents by the year 2050 to the already existing large base of 377 million urban residents. The management of such a great magnitude of population in urban areas is a challenge which comprises of a constant struggle of coping with the crumbling urban infrastructure, deficiencies in urban services, financial woes at municipal level, governance issues and an unprecedented impact on environment.

It is imperative to focus on sustainable urban development by upgrading the existing cities and building new ones - a task which requires not just policy interventions and financial stimulus but also a holistically trained manpower to lead through smart solutions oriented approach to addressing these challenges in a sustainable manner.

The M.Tech. programme in Urban Development Management (UDM) at TERI School of Advanced Studies (TERI SAS) launched in July 2013 seeks to develop a cadre of urban practitioners trained in sustainable urban development agenda with a distinctive multi-disciplinary approach. The programme equips students with cutting-edge technical skills like data modelling, managerial capabilities, and understanding of socio-economic, environmental, and legal issues associated with urban development and its three major components namely housing, infrastructure and environment.

The uniqueness of this programme lies in its approach to promote learning through research-based teaching, engagement of practitioners, and a diverse pedagogy ranging from classroom teaching, tutorials, case study discussions, and fieldwork. Apart from the classroom teaching, the programme also exposes students to the working of Urban Local Bodies (ULBs), Parastatals, Special Purpose Vehicles (SPVs) and urban development consultants through minor and major internships. Overall, the programme helps in building capacities for understanding the real-world urban development and management problems and identifying solutions that promote sustainable urban development.

Highlights of M.Tech. (UDM) Programme-

·   Field visits and research-based learnings;

·   Intensive internships at ULBs, Parastatals and SPVs;

·   Skill building in Sustainable Urban Development.

PROGRAMME STRUCTURE

The two-year programme offers 72 credits through course work at TERI SAS, 12 weeks of internship with municipal corporations, parastatals, and SPVs and one full semester of internship with international organizations, consulting firms, financial institutions, research organizations, or urban local bodies.

COURSE CURRICULUM

First Semester	Second Semester
Introduction to GIS	City and Regional Planning and Management
Stochastic Modelling	Geoinformatics for Urban Development Project Management
Sustainable Provision and Management of Urban Services	Real Estate Development
Technical Writing	Regeneration and City Competitiveness
Theories of Urbanization	Research Methodology
Urban Development Policies and Programmes	Urban Ecology and Environment
Urban Governance	
Urban Finance	
Third Semester	**Fourth Semester**
Major Project Part-1: Internships with Municipal Corporations, Parastatals and SPVs to orient Students towards the role of these organizations, to assess the gaps and challenges faced by them and contribute towards ongoing urban development projects.	Major Project Part-2: Internships With Bilateral or Multilateral Agencies/Consulting Firms/Financial Institutions/Research Organizations for Developing Skills and Capacities in the Formulation, Execution, and Monitoring of the Assigned Projects, and Enhancing Understanding of Critical Issues of the Urban Development Sector.
Energy Efficient Buildings	
Sustainable Urban Transport	
Urban Systems Modelling	
Urban Disaster Management and Climate	
Resilient Cities	
Urban Housing Policy and Practice	

OUR FACULTIES

DR. SHALEEN SINGHAL,

Dean (Research & Relationships), Department of Energy and Environment

DR. ABHIJIT DATEY

Assistant Professor, Department of Energy and Environment

DR. AVIRUCH BHATIA

Assistant Professor, Department of Energy and Environment

DR. BHAWNA BALI

Assistant Professor, Department of Energy and Environment

DR. DEEPTY JAIN

Assistant Professor, Department of Energy and Environment

DR. KAMNA SACHDEVA

Associate Professor, HOD of Department of Energy and Environment

DR. NITHIYANANDAM YOGESWARAN

Assistant Professor, Department of Natural Resources

MS. RANJANARAY CHAUDHURI

Lecturer, Department of Regional Water Studies

VISITING FACULTY

Mr. Subodh Jain
Chairman, Etude Services, Retired
Member Engineering, Indian Railways

Course Taught- Project Management

GUEST FACULTY

Mr. A.C. Kher
(IAS, Retd.)- Advocate on record,
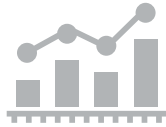Hon'ble Supreme Court of India

Dr. Debolina Kundu
Professor, National Institute of Urban Affairs

WHY HIRE FROM M. TECH. (UDM)?

Multi-disciplinary approach

Multi-sectoral

Finance

Governance

Environment

Analytical skills

GIS/RS

Statistics

Managerial skills

Project management

Stakeholder consultations

Technical skills

Urban growth simulations

Energy efficiency modelling

Safety auditing

Research skills

Survey methods

Qualitative assessments

Hands-on training with respect to management of urban sectors like solid waste management, transport, housing, water and sewerage, energy, ecology.

Understanding of sustainable development including equity, environment and urban finance.

Research based approach including field trips, surveys, observational studies and data analytics.

Proficiency in software application for urban management like Stata, Microsoft Excel ArcGIS and Erdas Imagine.

A multi-disciplinary approach to manage urban sectors using techniques and skills of architecture, engineering, management, social sciences, law and policy making

Two intensive internship programs with government organizations and private sectors

Key skills gained for dissemination of findings and results through reports, articles, presentations and posters.

Skill development in specific sectors through electives such as housing policy, transportation, disaster management and energy efficiency for training in specific sectors.

Well-versed with the dynamics of working in a team which aids peer learning.

SUSTAINABILITY SOLUTIONS THROUGH STUDENTS' ENGAGEMENT WITH DIFFERENT CIVIC BODIES

The students of M.Tech.(UDM) were engaged with urban local bodies across India for internship from 7th September 2020 to 5th December 2020. The primary aim of the internship was to provide exposure and understanding of the functioning, management and governance systems of the different ULBs/SPVs/Parastatals.

Thematic Area	ULBs or SPVs	Project title
Infrastructure and Services	Raipur Smart City Limited	Assessment of Smart Road Infrastructure Elements by considering their short term and long term impacts.
Solid Waste Management	South Delhi Municipal Corporation	Solid Waste Management in Unplanned Areas of Delhi
		An Assessment of Waste Segregation at source in West Zone of South Delhi Municipal Corporation
	East Delhi Municipal Corporation	Processing of construction and demolition waste in east Delhi.
		Exploring potential of Decentralized Waste Processing in East Delhi Municipal Corporation Area
	Delhi Cantonment Board	Analysis of SWM system in commercial areas of Delhi cantonment- Shashtri and Sadar Bazar
	Municipal Corporation Faridabad	Analyzing SWM system of Faridabad city and propose a Zero landfill and waste model for the city
	East Delhi Municipal Corporation	A Comparative Analysis of Transportation & Collection component of Swachh Sarvekshan 2020 & 2021 for East Delhi Municipal Corporation under Swachh Bharat Mission.

Thematic Area	ULBs or SPVs	Project title
Water and Waste water	Lucknow Smart City	Recycled Wastewater - A Resource for Smart City Management
	Delhi Jal Board	Analysis of water and sewage supply and distribution network in Delhi
	New Delhi Municipal Council (NDMC), New Delhi.	Management of Compost Pits and Water Supply
Urban Transport and infrastructure	New Delhi Municipal Council (NDMC), New Delhi.	Planning and design of cycle track, Vandemataram Marg (near Budh Jayanti Park), New Delhi.
	New Delhi Municipal Council (NDMC), New Delhi	To identify Traffic Choke Points in NDMC area and suggest remedial measures
	Municipal Corporation of Gurugram, Gurugram	Streets for People Challenge: Pedestrianizing Sadar Bazaar Road through a Participatory Approach
Urban Disaster Management	Rajkot Municipal Corporation	Covid-19 Mitigation and Resilience for the city of Rajkot
Urban Housing	Prayagraj Development Authority, Prayagraj, Uttar Pradesh	Assessment of Housing provisions in Prayagraj
Climate Resilient Cities	Municipal Corporation of Gurugram (MCG), Gurugram, Haryana.	Evaluating the climate resilience of Gurugram
Regeneration and City Competitiveness	Delhi Cantonment Board	Regeneration of Sadar and Shastri Bazaar of Delhi Cantonment

SOME FIELD-BASED AND RESEARCH BASED PROJECTS DONE BY STUDENTS

As per the course curriculum the students of M.Tech. (UDM) have conducted various research projects across different sectors. Brief descriptions of the some of field-based & research-based projects completed are given below. Some projects also had final output in the form of posters shown thereafter.
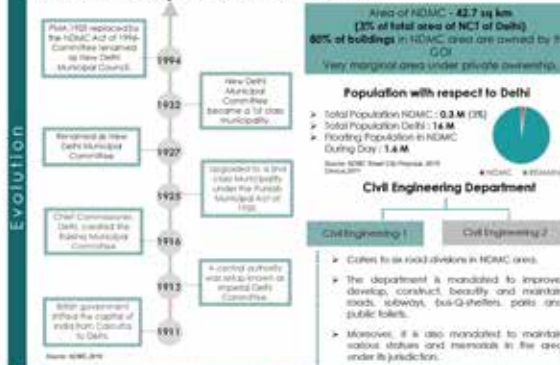
1. A study on urbanization and transformation of urban villages in Delhi was conducted by extensive data collection from secondary primary sources through case studies of Mehrauli, Chattarpur, Hauz Khas, Hauz Rani and Shahpur Jat, to understand the settlement pattern, urban fabric, the community set up and other aspects that provide stark characteristics to each urban village.

2. A detailed review of several policies and programs launched in India was conducted such as the Smart City Missions, Swachh Bharat Mission, JNNURM, HRIDAY, National Urban Transport Policy and more to gain an understanding of the components that make up a policy or program.

3. Urban Local Bodies make annual budgets based on the revenue & expenditure priorities. An in-depth analysis of annual budgets of three consecutive years of 18 cities was done by students individually to understand the city's aim and financial performance.

4. A comparative analysis of 6 State Finance Commissions (SFCs) in India was conducted to analyze and comprehend the process of formation of SFCs, what type of recommendations are made, the data required, the distribution of funds between state & ULBs and the overall working of the SFCs. A comparative poster of this was also created.

5. Sustainable Proposals for redevelopment of CBD in Delhi:
   A case study analysis of Bhikaji Cama Place on various urban services like water supply, electricity, transportation & solid waste management was conducted, then based on the learnings a deeper analysis of Nehru Place services was done and sustainable solutions for improving the CBD was provided.

6. Various state level legislations like municipal corporation act, municipalities act, metropolitan development authority act and urban development authority act were studied in depth to understand the functions prescribed in the law, the financial powers, provision and structure of the committees etc. and assess if the acts are justifying the objectives mentioned within.

7. Students conducted a city profile study of Dharamshala Smart City on 6 thematics of housing & shelter, transportation, social infrastructure, heritage and tourism, urban environment and inclusive planning with focus on street vendors by extensive site visits, surveys, consultations with officials and photo documentary.

8. For an Urban Transport project, an assessment of supply chain management in different industries like healthcare, FMCG sector, online food delivery, vegetable & dairy, automobile sector and para-transit was conducted, in view of the Covid Pandemic and how it has resulted in short term and long term changes in the supply chain.

9. A research based project on 'Making cities resilient to health disasters in case of Covid-19' was done for 6 different cities of India- New Delhi, Mumbai, Chennai, Thiruvananthapuram, Lucknow and Ahmedabad- by conducting hazard assessment, vulnerability assessment & capacity assessment and finally suggesting a health disaster management plan for the city. Comprehensive posters were also created for the same.

10. A GIS and Remote Sensing based project on Land Use/Land Cover Mapping for different Indian cities using LandSat8 data was completed, the analysis was done for two different years, 10 years apart to measure the change in landuse/land cover and corroborate with an accuracy assessment as well.

TECHNICAL POSTERS

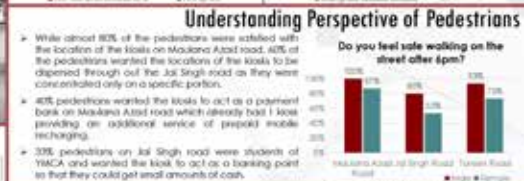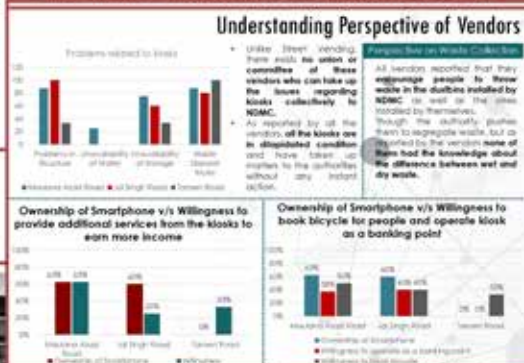Integration of Public Convenience Services with Vending Kiosks in NDMC Area

Inclusive Access to Primary Healthcare Infrastructure in Pune Smart City

Pune Smart City Development Corporation Limited

Established under the
Companies Act 2013 – **23rd March 2016**
State – Maharashtra
District – Pune
Municipal Area – **332 Sq.Km**
Population (as per Census 2011) – 31.24 lakhs
Population (estimated for 2019 as per Annual Growth Rate of 0.037) – **41.83 lakhs**
(Source: pmc.gov.in, 2019)

SPV for Pune Municipal Corporation

62 projects - Rs. 4849 crore

Key Theme #4 of Pune Smart City Proposal :
Drive socially inclusive growth in the region

v/s.

Debates and challenges of
Social Cohesion, Inclusiveness and Solidarity over the Development Paradigm of Smart Cities Mission

Pune Smart City addresses it by focusing on skill-building, healthcare, education and slum-redevelopment (MoUD, 2016).

Rationale for Theme Selection:
To explore this contrast and understand how practical solutions are being implemented through the Smart Clinics project

The Smart Clinics Project

- Key idea to provide health facility within a walking distance (around 2-3 km radius) with all services under one roof.
- Offers free primary healthcare to the citizens of Pune through services such as health check-up, diagnostic tests, sample collection, lab services and medicines for common ailments.
- 3 pilot smart clinics proposed in ABB area; out of which 1 is operational.

Proposed Locations of Smart Clinics in ABB region for area-based development

- These 3 locations were identified with parameters such as the population served, accessibility etc. from potential locations based on readily available built space with PMC, semi-finished buildings and open space for porta cabins.
- These clinics would be able to handle approximately 100 patients per day and provide lab facilities and medicines for free based on Aadhar.
- The launch of the project with citizen awareness for the facility could not be carried out due to Model Code of Conduct.
- The overall scheme envisages partial convergence with the National Urban Health Mission (NUHM); to allot 5 dedicated staff per clinic; additional incentives can be provided to doctors on a per patient basis over the NUHM salaries.
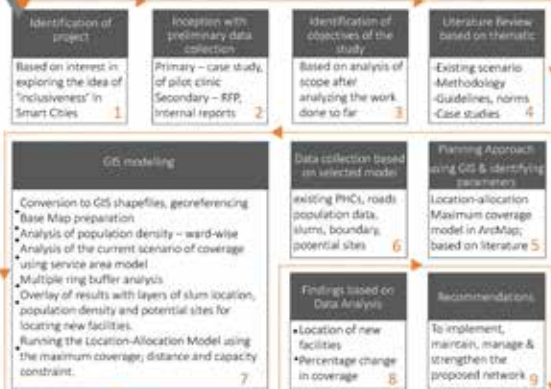
Built-up Area (Porta Cabin) = 60.2 sqm
Typical Floor Plan of Smart Clinic

Objectives of the study

1. To identify the spatial pattern of existing infrastructure for primary healthcare centres (PHCs) in Pune, that has emerged as a result of initiatives in the domain so far.

2. To assess the requirement of PHCs based on gaps in the existing infrastructure and recommendations as per standards and norms.

3. To propose the location of 100 Smart Clinics across the city, as envisioned under the Smart City Mission, using GIS-based spatial analysis.

4. To suggest measures to maintain, manage and strengthen the proposed network of inclusive healthcare infrastructure system
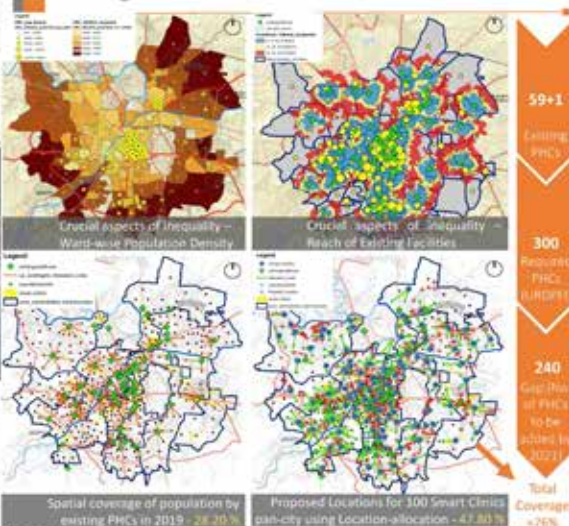
Research Methodology

1. Identification of project — Based on interest in exploring the idea of 'inclusiveness' in Smart Cities

2. Inception with preliminary data collection — Primary – case study, of pilot clinic. Secondary – RFP, Internal reports

3. Identification of objectives of the study — Based on analysis of scope after analyzing the work done so far

4. Literature Review based on thematic — Existing scenario, Methodology, Guidelines, norms, Case studies

GIS modelling —
Conversion to GIS shapefiles, georeferencing
Base Map preparation
Analysis of population density – ward-wise
Analysis of the current scenario of coverage using service area model
Multiple ring buffer analysis
Overlay of results with layers of slum location, population density and potential sites for locating new facilities.
Running the Location-Allocation Model using the maximum coverage, distance and capacity constraint.

6. Data collection based on selected model — existing PHCs, roads, population data, slums, boundary, potential sites

5. Planning Approach using GIS & identifying parameters — Location-allocation; Maximum coverage model in ArcMap; based on literature

8. Findings based on Data Analysis — Location of new facilities; Percentage change in coverage

9. Recommendations — To implement, maintain, manage & strengthen the proposed network

Parameters used in the study

S.No	Parameter	Description
1	Reach/Distance from existing PHC facility	Within 2 kms or 30 minutes of walking distance of every household
2	Accessibility	To be located on easily accessible areas and major roads with good visibility and connectivity
3	Population density	Population with respect to area (high, medium, low) – high density areas to be prioritized
4	Income Demographics	To ensure access by citizens from all sections of society. EWS to be prioritized.

Findings and recommendations

Crucial aspects of Inequality – Ward-wise Population Density

Crucial aspects of Inequality – Reach of Existing Facilities

Spatial coverage of population by existing PHCs in 2019 - 28.20 %

Proposed Locations for 100 Smart Clinics pan-city using Location-allocation - 47.80 %

59+1 Existing PHCs

300 Required PHCs (URDPFI)

240 Gap (No. of PHCs to be added by 2023)

Total Coverage +76%

Recommendations :
- Implementation to be distributed at individual administrative ward level; slum pockets shall be prioritized for execution.
- A 'Digital Health Ecosystem Model' to be adopted using an integrated platform of Health Management Information System (HMIS) to maintain, manage and strengthen the proposed network.
- Positions for Chief Data Analytics Officer and Nodal Officer for Entitlement Services to be carved in PMC's Health Department.

Digital Health Ecosystem Model

TERI school of advanced studies

Anushkriti
Research Intern | Pune Smart City Development Corporation Limited
M. Tech | Urban Development and Management
Department of Energy and Environment | TERI School of Advanced Studies

Internal Supervisor
Dr. Shaleen Singhal
External Supervisor
Mr. Arun G. Godbole

ASSESSMENT AND IMPROVEMENT OF PEDESTRIAN PATHWAY FROM SANJAULI CHOWK TO IGMC

Shimla- Queen Of Hills
- Capital city of Himachal Pradesh
- Governing ULB : Shimla Municipal Corporation
- Area : 35.34 sq. km
- Population (Census 2011) : 1,69,578 (93,152 Males ; 76,426 Females)
- No. of Ward : 35
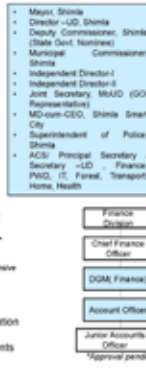- Qualified for Smart City Mission in 3rd round.

Fig: Map of India
Fig: Map of Himachal Pradesh
Fig: Shimla Planning Area

Source: Maps of India
Source: Comprehensive Mobility Plan
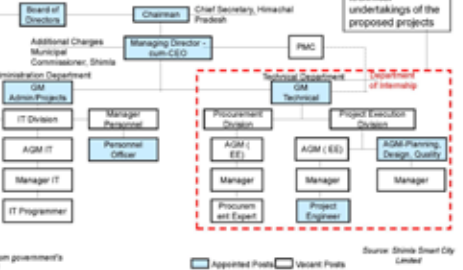
Shimla Smart City Limited
- Formed on 1st January 2018
- Headed by a Chairman with the help of Board of Directors.
- has a 50:50 equity shareholding of the Government of Himachal Pradesh and Shimla Municipal Corporation

Gaps and Challenges
- No Project Management Consultant appointed
- Many sanctioned posts still vacant
- No permanent office setup
- Clearances and approvals awaited from Nation Green Tribunal
- Integration with 23 other stakeholder departments

SHIMLA SMART CITY LIMITED

- Mayor, Shimla
- Director –UD, Shimla
- Deputy Commissioner, Shimla (State Govt. Nominee)
- Municipal Commissioner, Shimla
- Independent Director-I
- Independent Director-II
- Joint Secretary, MoUD (GOI Representative)
- MD-cum-CEO, Shimla Smart City
- Superintendent of Police, Shimla
- ACS/ Principal Secretary / Secretary –UD , Finance, PWD, IT, Forest, Transport, Home, Health

Main functions of SSCL : approve and sanction the projects, overview capacity building, execute the SCP, mobilise resources within the timeline, monitor and review the quality of the work

Fig: Proposed Structure of Shimla Smart City Limited*

*Approval pending from government's end

Source: Shimla Smart City Limited
Appointed Posts / Vacant Posts

PROJECT – ASSESSMENT OF PEDESTRIAN PATHWAY

Transportation and pedestrian mobility as one the major concerns plaguing the city, 27.41 % citizens were of the view that traffic congestion, public transport, parking and pedestrian mobility are an everyday nuisance hence many of the proposed projects aim at resolving this issue.

The project under study is titled 'Construction of Pedestrian Pathway from Sanjauli to IGMC' and the research will focus on 'Assessment and Improvement of Pedestrian Pathway from Sanjauli Chowk to IGMC'.

Learnings from Literature
- Definition of Pedestrians- :any person who walks, sits, stands in public spaces or uses a mobility aid such as walking stick, crutches or wheelchair, be they children, teenagers, adults, elderly persons, person with disabilities, workers, residents, shoppers or people watchers.'
- Facilities should be so provided to ensure continuous pedestrian flow.
- Aim at reducing pedestrian conflict with vehicular traffic to minimum, ensure that pedestrians walk in safe conditions.
- Need to setup dedicated institution within local or city governments which would manage and maintain pedestrian facilities and ensure proper implementation of pedestrian policies.
- Essential Components
  - Maintained continuous pedestrian sidewalks and crossing- clear walking zones
  - Appropriate Kerb Height – maximum 150mm
  - Public Utilities- Dustbins, Signages, Public Toilets
  - Shaded Bus Stops, trees,
  - Non Motorized Vehicle Zone
  - Consideration for Specially-Abled- Universal Accessible Design Standards

AIM AND OBJECTIVES
To provide improvements for transformation of Sanjauli Street into a pedestrian friendly street.

OBJECTIVES
- To study the existing pedestrian infrastructure along Sanjauli Street.
- To analyse gaps in existing pedestrian infrastructure along Sanjauli Street.
- To identify the expectations of the pedestrians in context with the pedestrian infrastructure.
- To study the challenges faced by the authorities in transforming the street to a pedestrian friendly street.
- To propose improvements which can be implemented to make it a pedestrian friendly street.

SCOPE
- The scope of study is limited to the stretch proposed by SSCL.
- The study will focus on enhancing the pedestrian environment, safety and facilities of the Sanjauli Street.

LIMITATIONS
- The study will be conducted in a limited time frame of three months.
- Good practices studied are generalized in nature since terrain specific practices weren't available.

METHODOLOGY

Selection of Thematic and Project → Background Study and Literature Review → Framing Aim of Study → Site Visit → Primary Data → Data Analysis and Interpretation → Suggestions and proposals

Stakeholder Identification

Primary: Patients, Patient Helpers, Hospital Staff, College Students, College Staff

Secondary : Tourists, Street Vendors

Tertiary: Municipal Corporation, SSCL, HP-PWD, HP-RIDC

Survey aims at studying the activity pattern, pedestrian facility analysis and comfort level, safety factors and the overall pedestrian experience.
- Sample Size calculated on the basis of footfall
- Average Hourly Footfall : Approximately 100 people
- Peak Hour Footfall (9am - 11 am) : Approximately 250 people
- **Sample Size : 75 (due to time constraint)**
- Mix of identified stakeholders were surveyed by **Random Stratified Sampling.**
- Groups identified were :
  - **Hospital Visitant : 36 :** Hospital Staff, Patients , Patient Helpers
  - **College Visitant : 34 :** College Staff, Students
  - **Tourists : 5 :** Frequency of tourists the street is very low

Site Analysis
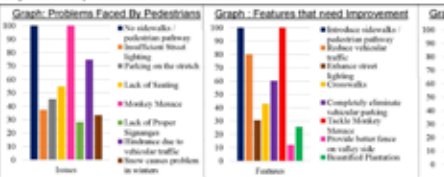### Objective: Existing Pedestrian Infrastructure of Street
Stretch of site : 1.5 km   Approach Roads to IGMC: Sanjauli Street, Cart Road, Mall Road

DENTAL COLLEGE, A CAFE, NURSING COLLEGE, GOVT COLLEGE, SANJAULI CHOWK

Source: Site Visit, 2019

Objective: Gaps in Existing Pedestrian Infrastructure

Parameters	Unit	Sanjauli Street
Clear pedestrian pathway	1800 mm - minimum	✗
Kerb Height	150 mm - maximum	✗
Kerb Radius	1500mm for road width less than 30 m	✗
Kerb Ramp	Gradient of 1:12	✗
Continuous Pavement	-	✗
Dead width	1000 mm-minimum	✗
Tactile Paving- vitrified	5 mm Height	✗
	300 mm wide - minimum	✗
At-grade Crossing	3000 mm- minimum	✗
Bollards	Gaps of 900mm-minimum	✗
Street Seating	-	✓
Tree Planting Zone	-	✗
Auditory Signals	-	✗
Street Signages	-	✗
Street Lighting	Mid-mast (10 m- 12m)	✓
	Low-mast (3m -5m)	✗
Public Toilet	At 500m – 800m interval	✗
	Near Bus-Stop	✗
Dustbins	-	✗
Hawker Zone	-	✗

Source: UTTIPEC Guidelines

Objective: Expectations of Pedestrians

Graph: Problems Faced By Pedestrians
Graph : Features that need Improvement
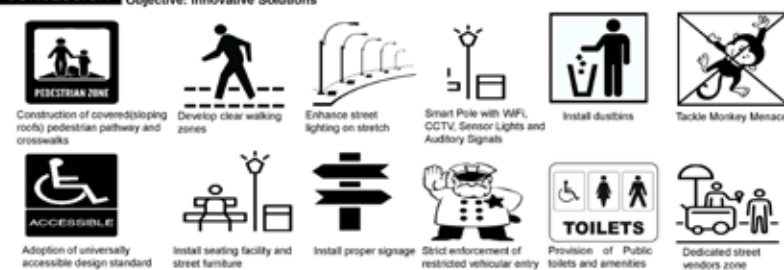Graph: Pedestrian Facilities Expected

Source: Field Survey, 2019

Inference
It can be inferred from the survey that Sanjauli Street has complete absence of the very basic pedestrian infrastructure such as pedestrian pathway, dustbin, public toilets, signage etc. Additionally the street also lacks essential pedestrian facilities such as public toilets, dustbins, seating, street signage etc.

OBJECTIVES
Objective: Challenges of Authorities
- Inputs from stakeholder departments like HP-PWD and HP-RIDC is lacking.
- Clearances from National Green Tribunal are difficult since the stretch is a core green space.
- In case of any portion of land owned privately, land acquisition will be time consuming.
- Width of carriageway cannot be decreased hence incorporating the pedestrian pathway with that might be challenging.

Stakeholder Profile
Graph: Proportion of Males to Female of Pedestrians
- Male
- Female

Graph: Type of Pedestrians
- Patient Helpers
- Hospital Staff
- College Students
- College Staff
- Tourists

Graph : Age Group Surveyed
- 0-14
- 15-29
- 30-59
- 60 and above

Source: Field Survey, 2019

CONCLUSION
Objective: Innovative Solutions

PEDESTRIAN ZONE — Construction of covered(sloping roofs) pedestrian pathway and crosswalks

Develop clear walking zones

Enhance street lighting on stretch

Smart Pole with WiFi, CCTV, Sensor Lights and Auditory Signals

Install dustbins

Tackle Monkey Menace

ACCESSIBLE — Adoption of universally accessible design standard

Install seating facility and street furniture

Install proper signage

Strict enforcement of restricted vehicular entry

TOILETS — Provision of Public toilets and amenities

Dedicated street vendors zone

LEARNING OUTCOMES

SSCL
Strength: independent existence initiation of early starter projects
Challenges: integration with 23 different departments; lack of technical staff, no PMC appointed
Opportunity: support from MoUD and central government; citizen engagement
Threat: approvals from NGT can stall projects

- Working of Consultant
- Implementation Process
- Functioning of SSCL
- Challenges due to non-appointment of PMC
- Organization Structure

Project
- Importance of Pedestrian Friendly Streets
- Role of authorities in project processing
- Understanding guidelines and design features of Pedestrian Streets
- importance of stakeholder participation in proper planning

Strength: potential to be a pedestrian friendly street
Challenges: street has no pedestrian infrastructure
Opportunity: Build pedestrian pathway citizen engagement
Threat: safety of pedestrians is compromised

TERI School of Advanced Studies
Internal Supervisor:
Dr. Bhawna Bali

Submitted By :
Disha Khanna

Shimla Smart City Limited, Shimla
External Supervisor:
Mr. B.P Verma

STUDENTS' INITIATIVES

UrbCon – Reimagining Sheher was a one-day symposium organized by the students of M.Tech. (UDM) programme. The symposium was held on 16th of November at TERI SAS Campus. The theme of this symposium was "Smart Solutions for Sustainable Cities and Communities. It started with the keynote address by Dr. O. P. Mathur, Senior Fellow at Institute of Social Sciences, New Delhi wherein he laid stress on the importance of shift in focus in development of small and medium town along with metropolitan cities. The symposium witnessed interactive lectures by eminent personalities from academia, industry, government and private sectors who gave valuable insights on different facets of urban domain.

Ms. Amanjot Kaur, Project Manager at All India Institute Of Local Self Government (AIILSG) opened the first session with a brief on the importance of capacity building and co-ordination between the local bodies and other government departments. It was followed by an enlightening session with Dr. Chandrani from National Institute of Disaster Management (NIDM) who spoke on concerns toward disaster risk reduction and how skewed growth leads to inequity in services and environmental imbalances. The session progressed with insights from Dr. Kulwant Singh, CEO of 3R Foundation, who focused on challenges associated with waste collection coverage, integration between departments and resource efficiency.

The second lecture session was headed by Ms. Vaishaly from EDS, India and Mr. Vikas Chandra a financing and PPP expert in Smart City Management Unit, who spoke on incorporation of energy efficiency features in buildings and efficient financing mechanisms in the Smart City Mission respectively.

The symposium successfully brought together experts from various domains of urban development who gave their perspectives on inherent challenges faced by the Indian cities and their solutions. The key take- away from the symposium focused on the need for integrated, inclusive and comprehensive approach for holistic urban development of our cities.

STUDENTS PARTICIPATION IN VARIOUS EVENTS

- National workshop on Localising Transport SDGs in Small Cities, 2019 organized by TRIPP, IIT Delhi

- Workshop on 'Redefining Urban Water Space', 2019 held at TERI SAS

- Ideathon conducted by NIUA for 'Nudging civic behaviour towards an Environment friendly Delhi'

- Rainwater harvesting and Management by SWASH

- 12th Urban Mobility of India Conference, 2019

- World Sustainable Development Summit (WSDS-2020)

- International Conference on Research Outlook, Innovations and Research Trends

- Online training programme on "Rain Water Harvesting" organized by TERI SAS in association with TATA Steel.
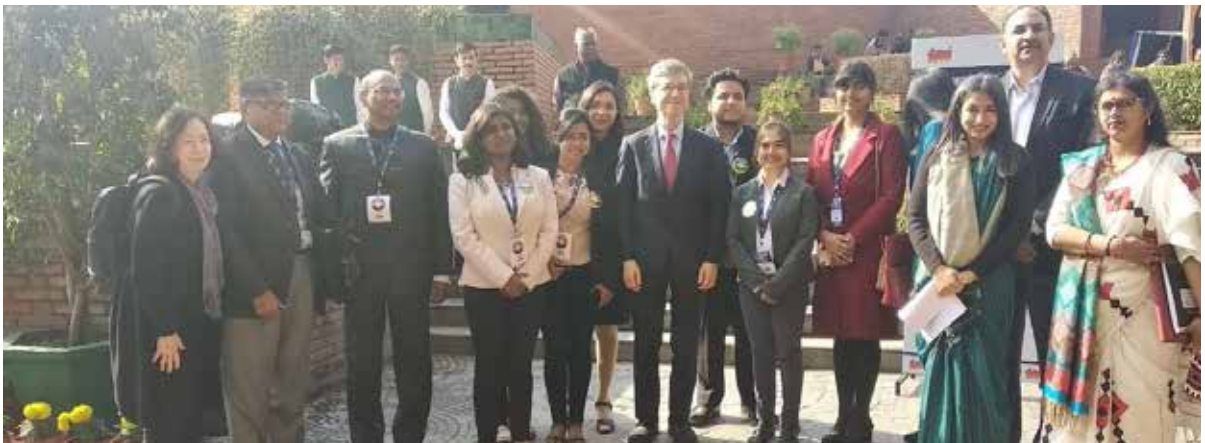
EXPERIENTIAL LEARNING

A consultation meeting conducted with Commissioner of Dharamshala Municipal Corporation and the GM of Dharamshala Smart City SPV during the study trip to Dharamshala, Himachal Pradesh for the city profile study of Dharamshala Smart City.

A site visit conducted to Bhikaji Cama Place for the study on analysis of urban services like water supply, electricity, transportation & solid waste management

STUDENTS' PROFILE

Alankrita Mallick

Academic Background: Bachelors of Planning (B.Plan.)

Institution: Sushant School of Art & Architecture, Sushant University, Gurgaon

Past Experience (No of Months): 14 months

Past Experience Organization: Xvidia technologies - Employment, Indian institute of Public Administration- Internship, National Institute of Urban Affairs- Internship, ActionAid Myanmar - internship, Voyants Solutions pvt. ltd- Internship

Major Project 1 Title: Solid Waste Management in Unplanned Areas of Delhi

Major Project 1 Organization: South Delhi Municipal Corporation

Anmol Aggarwal

Academic Background: Bachelors of Planning (B.Plan.)

Institution: Amity University, Noida

Past Experience(No of Months): 1 month

Past Experience Organization: MAG Consultancy - green building assessment - Internship

Major Project 1 Title: Processing of Construction and Demolition Waste in East Delhi

Major Project 1 Organization: East Delhi Municipal Corporation

Anuja Chavan

Academic Background: B.Tech.
(Civil Engineering)

Institution: Veermata Jijabai Technological Institute (VJTI), Mumbai

Past Experience (No of Months): 48 months

Past Experience Organization: Youngface Communications - Employment

Major Project 1 Title: Regeneration of Sadar and Shastri Bazaar of Delhi Cantonment

Major Project 1 Organization: Delhi Cantonment Board

Faiz Jamal

Academic Background: B.Tech.
(Civil Engineering)

Institution: Integral University, Lucknow, Uttar Pradesh.

Past Experience (No of Months): 1 month

Past Experience Organization: Lucknow Metro Rail Cooperation (now Uttar Pradesh Metro Rail Cooperation)-Internship

Major Project 1 Title: Recycled Wastewater - A Resource for Smart City Management

Major Project 1 Organization: Lucknow Smart City

Kauntey Suryavanshi

Academic Background: B.Tech.
(Civil Engineering)

Institution: KIIT University, Bhubaneswar, Odisha.

Past Experience (No of Months): 4 months

Past Experience Organization: Smart City Mission Lucknow-Internship, CPWD Bhubaneswar-Internship, L&T Construction Lucknow-Internship

Major Project 1 Title: Evaluating the Climate Resilience of Gurugram

Major Project 1 Organization: Municipal Corporation of Gurugram (MCG), Gurugram, Haryana.

Keshav Bajpai

Academic Background: B.Tech. (Biotechnology) with minor specialization in Environmental Biotechnology.

Institution: Manipal Institute Of Technology, Manipal, Karnataka

Past Experience (No of Months): 5 month

Past Experience Organization: Wockhardt Pharmaceuticals Ltd, Aurangabad, Maharashtra. -Training, Glenmark Pharmaceuticals Ltd, Bharuch, Gujarat. -Internship

Major Project 1 Title: Analysis of SWM System in Commercial Areas of Delhi Cantonment- Shashtri Nagar and Sadar Bazar

Major Project 1 Organization: Delhi Cantonment Board

Komal

Academic Background: Bachelor of Architecture (B.Arch.)

Institution: Lingaya's University, Faridabad, Haryana

Past Experience (No of Months): 24 months

Past Experience Organization: Atelier Design, Faridabad- Employment

Major Project 1 Title: Analyzing SWM System of Faridabad City and Propose a Zero Landfill and Waste Model for the City

Major Project 1 Organization: Municipal Corporation Faridabad

Mohit Devidas Nalawade

Academic Background: B.Tech. (Civil Engineering)

Institution: K.J.College of Engineering, Pune University

Past Experience (No of Months): 15 months

Past Experience Organization: Yashraj Group. -Training**,** Bharthi Geo Tech Pvt.Ltd.-Internship

Major Project 1 Title: Analysis of Water and Sewage Supply and Distribution Network in Delhi

Major Project 1 Organization: Delhi Jal Board

Naveen Kumar

Academic Background: B.Tech. (Civil Engineering)

Institution: Integral University, Lucknow, Uttar Pradesh.

Past Experience (No of Months): 2 month

Past Experience Organization: Public Works Department, Lucknow, Uttar Pradesh. -Internship, Cetpa Pvt. Ltd., Lucknow, Uttar Pradesh-Training

Major Project 1 Title: Planning and Design of Cycle Track, Vandemataram Marg (Near Budh Jayanti Park), New Delhi.

Major Project 1 Organization: New Delhi Municipal Council

Nimish Kaundal

Academic Background: B.Tech. (Environmental Engineering)

Institution: Delhi Technological University, New Delhi

Past Experience (No of Months): 2 months

Past Experience Organization: Department Of Environment, New Delhi - Internship

Major Project 1 Title: Retrieving Data. Wait a Few Seconds and Try to Cut or Copy Again.

Major Project 1 Organization: New Delhi Municipal Council

Nischint

Academic Background: Bachelor of Architecture

Institution: Government College of Lucknow, APJAKTU, Lucknow, Uttar Pradesh

Past Experience (No of Months): 26 months

Past Experience Organization: OSEPL, Aerocity, New Delhi - Employment, Design Studio, Prayagraj, Uttar Pradesh- Employment, Space A.R.T., Kozhikode, Kerala- Internship

Major Project 1 Title: Assessment of Housing Provisions in Prayagraj

Major Project 1 Organization: Prayagraj Development Authority, Prayagraj, Uttar Pradesh

Pooja Chaudhary

Academic Background: Bachelor in Planning

Institution: Amity University, Noida

Past Experience (No of Months): 12 month

Past Experience Organization: MAG Consultancy- Internship

Major Project 1 Title: Exploring Potential of Decentralized Waste Processing in East Delhi Municipal Corporation Area

Major Project 1 Organization: East Delhi Municipal Corporation

Rahul Kumar

Academic Background: B.Tech. (Mechanical Engineering)

Institution: RKDF University, Bhopal

Past Experience (No of Months): 24 month

Past Experience Organization: Quality Council of India, New Delhi- Employment, TATA Motors-Internship, Rail Wheel Plant, Saran (Bihar) - Internship

Major Project 1 Title: To identify Traffic Choke Points in NDMC Area and Suggest Remedial Measures

Major Project 1 Organization: New Delhi Municipal Council (NDMC), New Delhi.

Rohini Singh

Academic Background: B.Tech. (Electrical Engineering)

Institution: Institute of Engineering and Rural Technology, Allahabad

Past Experience (No of Months): 8 month

Past Experience Organization: NTPC, Unchahar-Internship, UPPCL, Moradabad- Internship, Aga Khan Agency for Habitat- Internship

Major Project 1 Title: An Assessment of Waste Segregation at Source in West Zone of South Delhi Municipal Corporation.

Major Project 1 Organization: South Delhi Municipal Corporation

Shiren Pandita

Academic Background: B.Tech. (Town Planning)

Institution: School of Planning and Architecture, Delhi

Past Experience (No of Months): 8 month

Past Experience Organization: IPE Global - Internship, Shyama Prasad Mukherjee Rurban Mission - Internship, Phoenix Planning Studioz Pvt. Ltd- Internship

Major Project 1 Title: A Comparative Analysis of Transportation & Collection Component of Swachh Sarvekshan 2020 & 2021 for East Delhi Municipal Corporation Under Swachh Bharat Mission.

Major Project 1 Organization: East Delhi Municipal Corporation

Shivangi Dhingra

Academic Background: Bachelors of Architecture (B.Arch.)

Institution: Vastu Kala Academy College of Architecture, Guru Gobind Singh Indraprastha University

Past Experience (No of Months): 11.5 months

Past Experience Organization: Housing and Urban Development Corporation (HUDCO), New Delhi- Internship, Zelos Developers Pvt. Ltd., Gurugram. - Internship, Svayam NGO, Jindal SAW, New Delhi- Internship, MAas Architects, New Delhi- Summer Internship

Major Project 1 Title: Streets for People Challenge: Pedestrianizing Sadar Bazaar Road through a Participatory Approach

Major Project 1 Organization: Municipal Corporation of Gurugram, Gurugram

Swapna Chakraborty

Academic Background: Bachelor of Architecture (B.Arch.)

Institution: Bharati Vidyapeeth College of Architecture, Pune (M.H.)

Past Experience (No of Months): 30 months

Past Experience Organization: Vikas and Nilima Bhosekar Landscape Architects, Pune (M.H.) - Internship, Pilliwar and Associates, Raipur (C.G.)- Employment

Major Project 1 Title: Assessment of Smart Road Infrastructure Elements by Considering their Short Term and Long Term Impacts.

Major Project 1 Organization: Raipur Smart City Limited

Viral Dipakbhai Joshi

Academic Background: B.Tech. (Environmental Engineering)

Institution: L D College of Engineering, Ahmedabad

Past Experience (No of Months): 1 month

Past Experience Organization: Savvy Greens - Savvy Infrastructure- Internship

Major Project 1 Title: Covid-19 Mitigation and Resilience for the City of Rajkot

Major Project 1 Organization: Rajkot Municipal Corporation

KEY RECRUITERS

The TERI SAS facilitates placement of students for major projects and final placements through placement cell in relevant industry and suitable organizations. The students undertake intensive internship with municipal corporations, parastatals and urban development consulting organizations.

Some of the key recruiters have been

- Centre for Economic and Social Studies
- Centre for Environment Education
- Consortium for DEWATS Dissemination (CDD) Society
- Five-M Energy Private Limited
- Housing and Urban Development Corporation Limited (HUDCO)
- ICT Consultants
- ICLEI South Asia
- IPE Global
- KPMG
- Karvy Insights
- Mehta & Associates
- National Institute of Urban Affairs (NIUA)
- Nagrika Policy Research Foundation
- NIUA
- Powertech Engineers
- Praja Foundation

- Quality Council of India
- Simplex Infrastructure Limited
- SG Analytics
- TERI SAS
- UNGCNI
- UNDP
- Urban Management Centre (UMC)
- World Resource Institute

MOU with CPPR

MOU signed between TERI SAS and Centre for Public Policy Research (CPPR) Kochi to enhance collaboration on research, capacity building and student internship and placements in the areas of –

- City planning and built environment,
- Air quality,
- Water,
- Urban and regional transport,
- Energy Efficiency in Buildings,
- Solid Waste Management and
- Disaster Management

PLACEMENT PROCEDURE

The University has a well-structured placement cell that facilitates students to engage in relevant industry and suitable organizations for major projects and final placements.

The campus recruitment activity for M.Tech. (UDM) is conducted to serve a dual purpose:

- Master's Thesis Project Placement – fourth semester of the programme
- Formal job recruitment on completion of the programme

Master's Thesis Project | Recruitment Period | October-December 2020

Availability of Students | January – June 2021

Job Placement | Recruitment Period | October 2020– June 2021

Students available for Joining | June 2021 onwards

We welcome organizations/corporates/institutions/others to visit our campus for interviewing and selecting the students for fourth semester masters' thesis project and final placements. You may interact with our students through telephone, video conferencing, or in person.

Interested organizations may contact the Placement Cell, the details of which are mentioned at the back of the brochure.

PLACEMENT CELL

Student Placement Coordinators
Alankrita Mallick
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faiz.jamal@terisas.ac.in

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Dr. Deepty Jain
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Energy and Environment
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Phone: +91 11 718800222