

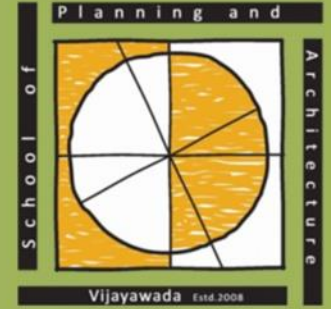


# PLANNERS' HEPTAGON

## DEPARTMENT OF PLANNING

School of Planning and Architecture Vijayawada

Planning Newsletter Even Semester - 2020 -21



### Contents

- ▶ Introduction 01
- ▶ Preface 02
- ▶ Training & Placement 03
- ▶ Events 04
- ▶ Webinars & PDP 05
- ▶ Academics 06
  - Studio Projects 08
  - Thesis Toppers 14
  - Diversity of thesis topics 17
- ▶ Faculty Corner 18
  - Publications & Achievements 18
- ▶ Articles and Illustrations 21
- ▶ Student Corner 25
  - Activities & Achievements 25
- ▶ RLCP 2020 27
- ▶ Editor's Note & Acknowledgements 30

### Introduction

The fourth edition of the Planner's Heptagon provides an extensive overview of the academic and co-curricular activities that were undertaken by the Planning Department of SPAV in this pandemic affected semester. This semester was all about realizing and exploring the potential of online education. The difficulties of online education are many but we overcame them by unified efforts of the students and the institution and maintained the same level of education as the pre-COVID era. The studio exercises were carefully crafted to counteract the limitations posed by the online mode of data collection and the research projects were more dedicated towards redevelopment and restoration. The newsletter breaks down the even semester 2020-21 into dedicated sections ranging from studio exercises to faculty research works and student achievements and institutional events and more.

#### Director's Message

**Prof. Dr. Minakshi Jain**  
Director, SPAV



It brings me immense pleasure to contribute to the Newsletter July 2021 edition for the Department of Planning and share with all that SPAV ranked 8 in the NIRF rankings and 6th in India Today rankings 2021. It is a milestone in the history of SPAV and we expect to rise higher in the upcoming years. All of it was rendered possible by the combined efforts of the faculties and the students even though the pandemic expanded the physical gap between the students and the faculties. We at SPAV did not let this gap become a hurdle and we overcame it quiet well as is substantiated with the achievements and performance of the students. As the world emerges from the pandemic, and the academic world settles into this new paradigm shift, we at SPAV have developed a well-accepted and suitable e-infrastructure to bring the students and the faculties closer to interact and foster the overall growth of the students both academically and psychologically. Online Webinars, Workshops and Conferences were conducted at SPAV at national as well International. National and International collaborative research and consultancy projects that happened during the semester definitely build the image and identity of SPA in local, National and International academic market. If anything, this pandemic has taught us how important it is to plan our world in a resilient manner. Our focus as planners as well as humans should now be on the redevelopment of the world in a resilient, inclusive and sustainable manner.

#### HOD's Message

**Dr. Abdul Razak Mohamed**  
Professor and Head  
Dept. of Planning, SPAV



It is my pleasure to get this opportunity to guide the Department of Planning for a second time as the Head of the Department. Even though it is a challenge to grow at a similar pace as the pre-pandemic times, we at SPAV have successfully overcome the hurdle and have succeeded in establishing new avenues of institutional growth. The Department of Planning took the task of organizing theory subjects and planning studios based special lectures, webinars and panel discussions on the prime topics relating to how to move forward planning during pandemic and after pandemic situation becomes a challenge. It was also a new experience for the faculty and students. he pandemic has posed in front of the faculty and students a question which we as planners approach aspects related to architecture, engineers, sociological, geographic and, economic aspects into the planning studio and thesis work become a stupendous task in collecting data and information to prepare plans without visiting field and fully real on the secondary data without compromising the quality of learning. As we step out of the pandemic era, and the world looks forward to achieving the normality yet again, the role of planners becomes indispensable. Planners should consider not only focused on sustainability but also on social inclusivity and the rebuilding of the society must happen in a resilient manner. When it comes to the overall development of our students, we take the utmost care to instill within them the ideas of social equity, environmental preservation, sustainability and inclusivity.

### Department of Planning



The Department of Planning at SPA Vijayawada offers a four year undergraduate degree, a two year post graduate degree (with specialization in Urban and Regional Planning, Environmental Planning and Management, and Transportation and Infrastructure Planning), and a doctoral research programme in Planning. The students of Planning are exposed to proficient planning expertise through full-time faculty and distinguished visiting faculty. The Alumni of the Department are successfully working across India and the world as professional planners with the government and private sector.

This work is under the copyright of Department of Planning, School of Planning and Architecture Vijayawada

JAN - JUN  
**2021**  
ISSUE 02  
VOLUME 02

# Planners' Heptagon

## The Theme



Illustration credits - Vishakha Gondhali (MURP, 2nd yr)

# Concomitance

The word concomitance means occurrence or existence together or in connection with one another. This semester's newsletter is focused upon the way forward from the destruction that this pandemic has caused. Humanity has suffered not only on the social front but also the economic and developmental fronts. Planning may have the answer to the How and Why of the future that is to come. The co-occurrence of the redevelopment and rebuilding of this post pandemic world alongwith the resilient redesigning of this society is what forms the theme of this edition of the newsletter because concomitance is the only alternative to co-destruction.

# COVID - 19

## Precautionary Measures



During this challenging phase, the college has taken several measures to combat the crisis and maintain the well-being of our SPAV family. Various circulars regarding Protective measures, usage of Arogya Setu App, awareness sessions on mental health, ICT approach, establishment of student grievance cell were put-forth amongst students to keep them updated. An action plan was made to overcome mental stress and ensure stability of students as per YUKTI portal of MHRD, Gol.

# Functioning of College Activities

## During the Pandemic

### ONLINE CLASS

All the classes were conducted via digital streaming platforms (google meet and google classrooms), with presentations and videos made by faculty members.



### GATE WORK

The eligible students were allotted with a Gate co-ordinator each, and Students were asked to contact their respective Gate co-ordinators to proceed with their work and was accessed eventually.



### INTERNAL ASSESSMENT

The three internal assessments were made via various digital platforms, in particular Google classroom, and students were asked to submit their allotted works within a stipulated time for the final marking.



### STUDIO JURY EXAMINATION

The students had to submit their completed works along with a report of their semester studio projects and thesis. Following this, they had a viva via digital platforms (Google Meet) after a series of discussions with the internal faculties through the same medium.



### ONLINE THEORY EXAMS

The mid-semester and the end semester examinations were also conducted online. The question papers were sent to the official email id's of students and they have to write and submit the scanned copy of the answer sheets within the stipulated time to the respective link.



### ADMISSIONS 2021 - 2022

The total student intake of the Department of Planning, during the academic year of 2021 - 2022 was 38 students for the B.PLAN course and 25 students each for the various M.PLAN courses.



# Strength of the Department

## STUDENTS (213 nos.)

B.PLAN	M.PLAN
31 I - Year	41 MURP I YEAR - 24 II YEAR - 17
22 II - Year	35 MEPM I YEAR - 18 II YEAR - 17
25 III - Year	37 MTIP I YEAR - 20 II YEAR - 17
22 IV - Year	
<b>100 nos.</b>	<b>113 nos.</b>

## FACULTY

01 Professor	02 Associate Professors	07 Assistant Professors
-----------------	----------------------------	----------------------------

## Training & Placement

The Training and Placement Cell of SPAV since its origin in the 2014 has continuously been working for the improvement of the employability and placements of our students.

This was the first time it faced a road-block because of the Covid pandemic which made the employment scenario much more difficult than ever. In spite of this, our students managed to earn themselves jobs and positions all across the nation.

Many of our graduates have chosen to go for higher studies and a few have started their journey towards Administrative services to serve the nation. Few notable companies / institutions where our students are working / have worked include:

1. National Institute of Rural Development & Panchayat Raj (NIRDPR), Hyderabad
2. Rurban Mission (SPMRM)
3. Andhra Pradesh Industrial Infrastructure Corporation (APIC)
4. Town and Country Planning Organisation (TCPO)
5. E-GIS
6. GIS based masterplan Hubli Dharwad
7. IBI GROUP
8. GMR India
9. Infrastructure Leasing & Financial Services Limited (IL & FS)

## Practical Training

The practical training could also not stay untouched by the impact of the Covid pandemic scenario and the students overcame the hurdle of this online only medium and learnt at par with the previous batches which did it offline. The department advised the internship batch students to register for online courses through available E-platforms viz., SWAYAM, NPTEL, MOOC, EdX, Coursera, Harvard Online Learning etc., in order to fulfil the requirements of internship/ practical

training, as per the Academic ordinances. In this connection, the potential online courses were identified and recommended batch-wise for B.Plan second & third years, and M.Plan first years (MURP, MTIP & MEPM), based on the recommendations of the Faculty Board, Dept. of Planning. The students have registered for the online courses and successfully completed the same by the end of August 2021.

### Recommended Courses for **Bachelor of Planning (B.Plan - UG Programme)**

1. CitiesX: The Past, Present and Future of Urban Life
2. Rethink the City: New Approaches to Global and Local Urban Challenges
3. Urban upgrading for inclusion, sustainability and resilience in a time of global pandemic
4. Solid Waste Management
5. GIS Data Acquisition and Mapping
6. Spatial Analysis and Satellite imagery in a GIS
7. Geospatial and Environmental Analysis

(Recommended No. of Courses : 12)

### Recommended Courses for **Master of Planning (M.Plan - Urban and Regional Planning)**

1. GIS, Mapping, and Spatial Analysis Specialization
2. Reclaiming the Street for Livable Urban Spaces
3. African cities : An Introduction to Urban Planning
4. (Re)Imagining Port Cities: Understanding Space, Society and Culture
5. Planning for Climate Change in African Cities
6. Building Inclusive Cities: Tackling Urban Inequality and Segregation
7. Global Housing Design

(Recommended No. of Courses : 25)

### Recommended Courses for **Master of Planning (M.Plan - Environmental Planning and Management)**

1. Ecodesign for Cities and Suburbs
2. Nature Based Metropolitan Solutions
3. Sustainable Urban Environments
4. Environmental Protection and Sustainability
5. Modelling Watershed Processes for Water Resource Management
6. Co-Creating Sustainable Cities
7. Greening the Economy: Sustainable Cities
8. Climate Change Mitigation in Developing Countries

(Recommended No. of Courses : 19)

### Recommended Courses for **Master of Planning (M.Plan - Transportation and Infrastructure Planning)**

1. Intro to Traffic Flow Modeling and Intelligent Transport Systems
2. Sustainable Urban Freight Transport: A Global Perspective
3. Smart Cities, Management of Smart Urban Infrastructures
4. Urban Transit for Livable Cities
5. Sustainable Urban Development
6. Road Traffic Safety in Automotive Engineering

(Recommended No. of Courses : 13)

## 3Re-ICS 2021

(World Environment Day-2021)



(DATED: 05-06-2021)

**Expert Speakers:** Dr. Prof. Minakshi Jain, Director, SPAV  
Mr. Shankar Arumugham, Head Strategic consultant and valuation advisory, JLL India

Mr. Murali LS, Chief consultant and Head, Transport Planning Section, L&T Chennai

**Co-ordinated by:** Dr. Prof. Abdul Razak Mohamed, Head DOP, SPAV  
This years environment day workshop was on the theme of Re-imagining, Re-creating, and Re-storing urban spaces majorly on infrastructural aspects.

## Art of Mind Control through Yoga and Meditation

(International Yoga Day-2021)



(DATED: 21-06-2021)

**Guest Speaker:** Shri Vilasa Vighraha Dasa, ISKCON

International Yoga Day was celebrated online with a session on the 'art of mind control with Yoga and meditation'. The participants were familiarised with various types of yoga forms and other basics of yoga. The speaker gave his thoughts on how Yoga and meditation can help in calming and controlling one's own mind. The inspiring session ended with a quote of Buddha, "Every human being is the author of his own health or disease".

## International Women's Day Celebration



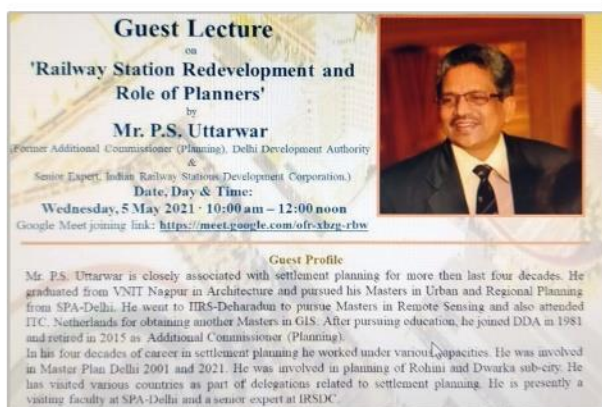
(DATED: 08-03-2021)

**Guest Speakers:** Dr. B. Keerthi-President, Vysavya Mahila Mandal  
Dr. Padmaja, Principal, Siddhartha Women College

Ms. Leena, Faculty of Delhi Public School, Vijayawada

To observe the International Women's Day 2020, School of Planning and Architecture, Vijayawada celebrated the day throughout the first week of March, 2020. There were various competitions held in this week, namely poster design, slogan writing and essay writing competition.

## Railway Station Redevelopment and role of planners



(DATED: 05-05-2021)

**Guest Speaker:** Mr. P S Uttarwar (Additional Commissioner (planning), Delhi Development Authority & Senior Expert, Indian Railway Stations Development Corporation)

**Co-ordinated by:** Asst. Prof. Jayesh Bhagwat  
The nation is going through the stage of redeveloping the railway stations. The lecture emphasized on the need of preparing planners, engineers, and architects for the same. The presentation guided the students through the various ongoing models, mechanisms used.

## Sectoral Analysis in Master Plan Preparation Process



(DATED: 05-05-2021)

**Guest Speaker:** Dr. Poonam Prakash, Professor of Physical Planning, SPA Delhi

**Co-ordinated by :** Asst. Prof. Ekta  
The esteemed guest introduced the students to the importance of sectoral approach during the master plan preparation process. Students were enlightened about the several aspects of a sectoral analysis in the planning process. The planning students discussed with Dr. Poonam Prakash about their understanding on the subject and with her invaluable expertise, she inspired the students to be better planners.

## Governance Practice of Local Govt. in India: Reality and Challenges



(DATED: 11-05-2021)

**Guest Speaker:** Prof. Dr. Tathagata Chatterji, Professor, Urban Management and Governance, Xavier University, Bhubhaneswar  
**Co-ordinated by:** Dr. Prof. Abdul Razak Mohamed, Head DOP, SPAV  
The challenges faced by the urban governance structure of the present day India was discussed. The Students interacted with Dr. Tathagata Chatterji and gained clarity on various concepts related to urban and local governance. The expert gave his insights on the functioning of ULBs and their roles in local governance structure.

## Online Special Lecture on Planning for Safer NMT Infrastructure

योजना तथा वास्तुकला विद्यालय, विजयवाड़ा  
School of Planning and Architecture, Vijayawada  
An Institute of National Importance, MHRD, Govt. of INDIA.

ONLINE SPECIAL LECTURE ON

Prof. Dr. Geetam Tiwari  
Dept. of Civil Engineering,  
IIT Delhi  
E-mail: [geetamt@civil.iitd.ac.in](mailto:geetamt@civil.iitd.ac.in)

Areas of Interest  
Transport Planning and Policy, Traffic Safety, Public Transport and NMV Planning.

Planning for Safer NMT Infrastructure

(DATED: 17-05-2021)  
**Guest Speaker:** Prof. Dr. Geetam Tiwari, Dept. of Civil Engineering, IIT Delhi  
**Co-ordinated by** Asst. Prof. Naina Gupta

The students were able to understand and learn about the importance of planning for a safer Non-motorized transport (NMT). The expertise of Prof. Dr. Geetam Tiwari on various planning interventions in providing a safer and quality environment for the vulnerable road users, gave useful insights to the students.

## Institutional Framework in transport sector in India

Special Lecture on:

2. Institutional Frameworks in Transport Sector in India: An Overview

Date: 31st May 2021  
Time: 10:30 am

Dr. Sanjay Gupta has over 34 years of experience in the field of Transport Planning. He expertise in the areas of Transport planning, Public transport, Freight logistics, Demand modeling and Transport policy related aspects.

Lecture By:  
**Dr. SANJAY GUPTA**  
Professor of Transport Planning, SPA Delhi

(DATED: 31-05-2021)  
**Guest Speaker:** Prof. Dr. Sanjay Gupta, Professor of Transport Planning, SPA-Delhi  
**Co-ordinated by :** Asst. Prof. Ekta

The students were able to understand the governance structure in transportation and were also gained insights on the various issues and limitations in the governance structure of transport agencies. The lecture clarified on the need of a unified transit authority for the better functioning of the transport system with examples.

## Economic Aspects of Public Transport

Special Lecture on:

1. Economic Aspects of Public Transport

Date: 25th May 2021  
Time: 10:30 am

Dr. Sanjay Gupta has over 34 years of experience in the field of Transport Planning. He expertise in the areas of Transport planning, Public transport, Freight logistics, Demand modeling and Transport policy related aspects.

Lecture By:  
**Dr. SANJAY GUPTA**  
Professor of Transport Planning, SPA Delhi

(DATED: 25-05-2021)  
**Guest Speaker:** Prof. Dr. Sanjay Gupta, Professor of Transport Planning, SPA-Delhi  
**Co-ordinated by :** Asst. Prof. Ekta

## Online Workshop on Sustainable City Planning and Management

School of Planning and Architecture, Vijayawada  
An Institute of National Importance, MoE, Govt. of India

Department of Planning is organizing a Half day Workshop on

'Planning for a Sustainable Environment for Vijayawada'

on 29th May 2021  
Event Timing: 10 am - 1pm

Online through Google Meet  
<https://meet.google.com/rad-egzh-oei>  
and Live on SPAV Youtube Channel

Experts:  
Mr. Imran Basha S, City Coordinator, UN-HABITAT  
Ms. Mansi Sachdev, Senior Urban planner, UN-HABITAT

Organized by:  
Prof. Dr. Minakshi Jain, Director, SPA Vijayawada  
Prof. Dr. Abdul Razak Mohammed, Head, Department of Planning  
Mr. Rajeev R., Assistant Professor, Dept. of Planning  
Dr. Adinarayanan R., Head Planning & Development

(DATED: 31-05-2021)  
**Guest Speaker:** Mr. Imran Basha S, City Co-ordinator, UN-HABITAT;  
 Ms. Mansi Sachdev, Senior Urban planner, UN-HABITAT  
**Co-ordinated by:** Asst. Prof. Rajeev

## Exploring the untapped Blue Economy Potential for India ICZM

योजना तथा वास्तुकला विद्यालय, विजयवाड़ा  
School of Planning and Architecture, Vijayawada  
An Institute of National Importance, Ministry of Education Govt. of India

Department of Planning is organizing a Webinar

On Friday 21 May 2021  
Event Timing: 3:00 PM onwards

"Exploring the untapped Blue Economy Potential for India; ICZM - a way forward"

By  
**Ms. Anuja Shukla**  
Environmental Specialist at the World Bank

Attend: Online through Google Meet and Live on SPAV Youtube Channel  
Google Meet joining info  
Video call link: <https://meet.google.com/yvw-vnrg-emi>

Organizers:  
Prof. Dr. Minakshi Jain, Director, SPA Vijayawada  
Prof. Dr. Abdul Razak M, Professor & Head, Department of Planning  
Mr. Rajeev R., Assistant Professor, Department of Planning

(DATED: 21-05-2021)  
**Guest Speaker:** Ms. Anuja Shukla Environmental specialist (World Bank)  
**Co-ordinated by:** Asst. Prof. Rajeev

## Online Special Lecture on Challenges in Academic Writing

योजना तथा वास्तुकला विद्यालय, विजयवाड़ा  
School of Planning and Architecture, Vijayawada  
An Institute of National Importance, Ministry of Education Govt. of India

SPECIAL ONLINE LECTURE ON

Dr. Prema Rajagopalan  
Professor (Dept of Humanities and Social Sciences Indian Institute of Technology, Madras  
Email: [prema@iitm.ac.in](mailto:prema@iitm.ac.in)

ACADEMIC BACKGROUND  
 • Ph.D. (Sociology of Science & Technology) from IIT Kanpur - 1990  
 • M.Phil. from University of Madras - 1982  
 • M.A. from University of Madras - 1980  
 • B.A. (Sociology) from University of Madras - 1978

"CHALLENGES IN ACADEMIC WRITINGS"

(DATED: 28-05-2021)  
**Guest Speaker:** Dr. Prema Rajagopalan, Professor at Department of Humanities and Social Sciences, IIT Madras  
**Co-ordinated by:** Prof. Dr. Abdul Razak Mohamed, Head, Dept. of Planning, SPA-Vijayawada

Students got the guidance of one of the seniormost faculty involved in the field of humanities in the country about the 5 W's of academic writing and common myths and errors existing in every young researcher's mind.

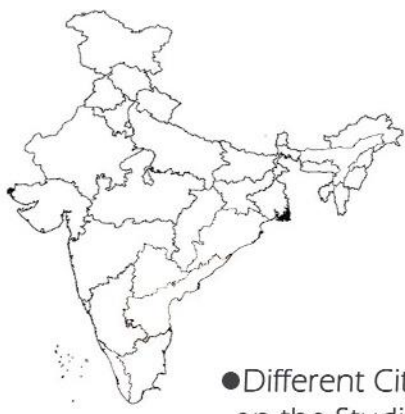


## Legal Connotations of Professional Practice of Env. Planning in India

Lecture By:  
**ADVOCATE RAGINI GUPTA**  
(Advocate & Professional Practitioner)  
She is a well known Advocate involved in professional practice from past 10 years and helping for environmental growth

Conducted By:  
Prof. Dr. Minakshi Jain, Director, SPA Vijayawada  
Prof. Dr. Abdul Razak Mohamed, Head, Department of Planning, SPA Vijayawada  
Asst. Prof. Jivantika S, Coordinator (Asst. Professor) SPA Vijayawada




(DATED: 11-06-2021)  
**Guest Speaker:** Adv. Ragini Gupta  
**Coordinator:** Asst. Prof. Jivantika S

During this insightful guest lecture on 'Legal connotations of professional practice of environmental planning in India', the students got a rare opportunity to interact directly with a legal and professional working for environmental protection through which they got to learn about the importance of stakeholder participation and role of advocacy in environmental planning.

SEMESTER II	SEMESTER IV	SEMESTER VI
<p><b>Planing and Mapping Studio</b> Maps - Significance and Types</p>	<p><b>STUDIO TOPIC</b></p> <p><b>Transport Planning Studio</b></p> <p>1) Pedestrianization &amp; Road Safety Improvement Plan, MVP Colony, Visakhapatnam 2) Smart &amp; Sustainable Parking Management for Besant Road, Vijayawada 3) Road Improvement Plan for Narsipatnam 4) Square Development of Benz Circle, Vijayawada</p>	<p><b>Master Plan 2041 - Tanuku, AP</b></p>
<p>The aim of the learning process in this particular studio is to inculcate in the students an understanding of the symbology and concepts involved in creating maps. It aims to teach map making and it's importance to the students, which then enables them to improve their skills and helps them to learn it's applications in planning.</p>	<p><b>INTRODUCTION</b></p> <p>The studio is based on the objective to inculcate knowledge related to traffic and transport planning in real traffic and transport related problems and aims at helping them understand how to design the various components of a transportation network, measures to reduce traffic congestion and minimizing accident-prone areas.</p>	<p>The studio aims to develop an understanding and detailed knowledge on master plan making process, studying different planning concepts and techniques aiming in particular at improving and developing the physical, social and natural environment of people in synergy, promoting balanced socio - economic growth and sustainable development.</p>
<ul style="list-style-type: none"> <li>• Understanding various Types of Maps</li> <li>• Elements and Concepts of Maps</li> <li>• Physical features around the place, specifically the Contours</li> </ul>	<p><b>FOCUS</b></p> <ul style="list-style-type: none"> <li>• Transportation planning methodology</li> <li>• Road Safety Improvement</li> <li>• Designing of the various elements of transportation network</li> </ul>	<ul style="list-style-type: none"> <li>• Balanced socio- economic growth</li> <li>• Inclusive and Sustainable development</li> <li>• Demand Assessment for the plan year</li> <li>• Promoting desirable patterns of land uses</li> </ul>
 <p>• Different Cites based on the Studio exercise</p>	<p><b>AREA OF STUDY</b></p>  <p>• Visakhapatnam &amp; Vijayawada, Andhra Pradesh</p>	 <p>• Tanuku, Andhra Pradesh</p>
<p>The students were required to understand the various properties of the city, like population density, development, city planning, rivers or the reason for the settlement and physical features like contours after studying five cities of their choice. The outcome of the study was presented via hand drafted maps exploring the urban form determinants and other characteristics of the chosen cities.</p>	<p><b>OUTCOME</b></p> <p>The students were required to identify the transportation related problems at national and city level and conduct the surveys related to Transport Planning in the areas they live. The end product required the students to give design proposals on Pedestrianization and Road safety improvement Plan, City Square Development and Smart and Sustainable Parking Management Strategies..</p>	<p>The students were required to develop a master plan for the study area whilst focusing on the sustainable development evolving vision and road map for balanced socio- economic growth by regulating future spatial development to be envisaged for the horizon year, 2041, by defining strategies for promoting the proposals for the development of the study area.</p>
<p><b>Ar. Jivantika Satyarthi</b></p>	<p><b>STUDIO COORDINATORS</b></p> <p>Mr. Bhagwat Jayeshkumar Ms. Naina Gupta</p>	<p>Ms. Ekta Dr. Abdul Razak Mohamed</p>

## B.PLAN

# PLANNING EVEN SEMESTER STUDIO '20-21

MURP - SEMESTER II	MTIP - SEMESTER II	MEPM - SEMESTER II
<p><b>Development Plan 2041 - Vijayawada, AP</b></p>	<p><b>STUDIO TOPIC</b></p> <p><b>Appraisal of Public Transportation: A Case Study of Vijayawada, AP</b></p>	<p><b>Environmental Management Plan - Vijayawada, AP</b></p>
<p>The studio was carried out with the intention of understanding the challenges involved in developing a masterplan for Vijayawada city (VMC) jurisdiction in order to evolve a rational comprehensive development plan for the future of the concerned settlement, with equitable distribution of resources and a concern for ecology.</p>	<p><b>INTRODUCTION</b></p> <p>The studio focuses on inculcating the students a detailed understanding of the various surveys and the proces of data collection and analysis that a transport planner is required to carry out in order to to understand the best practices, concepts and methods in PT network planning, TOD, Mode choice modelling, Benchmarking, connectivity and accessibility.</p>	<p>The studio aims at introducing environmental baseline studies and detailed assesment of environmental status and impacts at an urban level by analysing the generic sectors and the detailed sectors to understand the environmental potential and impacts of the city to develop an environmental management plan for the study area.</p>
<ul style="list-style-type: none"> <li>• Multi-sectoral plan document and associated maps</li> <li>• Environment sustainability</li> <li>• Spatial growth and ecological concern</li> </ul>	<p><b>FOCUS</b></p> <ul style="list-style-type: none"> <li>• Background Study</li> <li>• Financial &amp; Physical SLB's</li> <li>• PT Demand Modelling &amp; Fleet estimation</li> <li>• Measures to enhance NMT &amp; improve bus stop accessibility</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental management and development</li> <li>• Identification and analysis of environmental concerns</li> </ul>
 <p>● Vijayawada Andhra Pradesh</p>	<p><b>AREA OF STUDY</b></p>  <p>● Vijayawada Andhra Pradesh</p>	 <p>● Vijayawada Andhra Pradesh</p>
<p>Formulation of a holistic cross-sectoral Development plan that envisions Vijayawada as a Sustainable and Resilient city that anticipates and plans for the growing population by Designing infrastructure to improve the natural and built environments and optimizing the resources and systems for greater efficiency &amp; Provision of Opportunities.</p>	<p><b>OUTCOME</b></p> <p>An appraisal of public transport system of Vijayawada was performed which analysed the basic background, physical and financial performance, user demand, fleet requirement, accessibility, and NMT facilities. This was concluded with suggestions and proposals to improve the accessibility &amp; NMT facilities.</p>	<p>A sustainable environmental planning model for Vijayawada City with a comprehensive cross-sectoral plan envisioning Vijayawada's long-term viability based on its human, biological, and geographic diversity, by fostering a balanced growth of the economic and environmental sectors, as well as adequate infrastructure of the city.</p>
<p><b>Dr. Ayon Tarafdar</b> <b>Mr. Valliappan AL</b></p>	<p><b>STUDIO COORDINATORS</b></p> <p><b>Ms. Naina Gupta</b> <b>Dr. Prasanth Vardhan</b></p>	<p><b>Mr. Rajeev R</b> <b>Dr. Adinarayanane R</b></p>

## M.PLAN

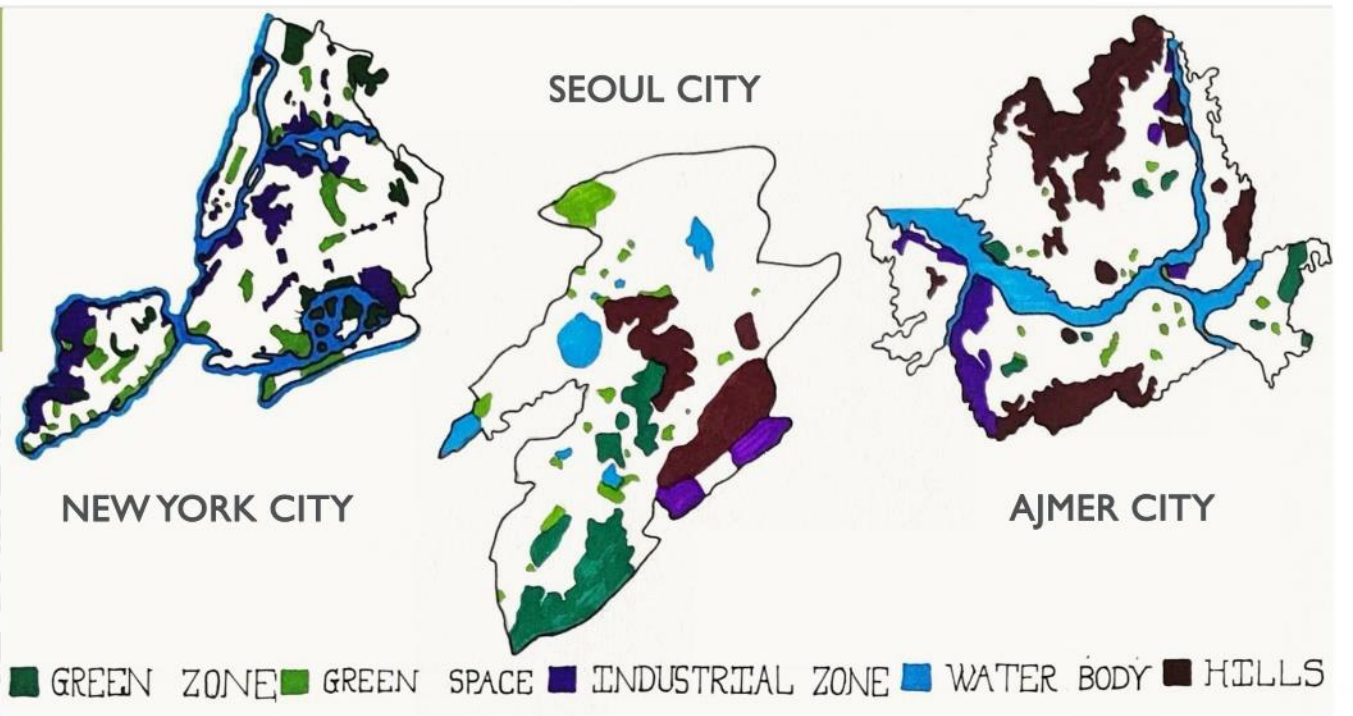
The entire semester has been dealt with online classes for all the batches due to the existing pandemic scenario. Progressive internal assessments were carried out throughout the semester and the final examination completed in January, including written, viva-voce and jury exams through online mode.

**B.PLAN**  
 YEAR I - SEMESTER II  
**Planning and Mapping Studio**  
 Ar. Jivantika Satyarthi

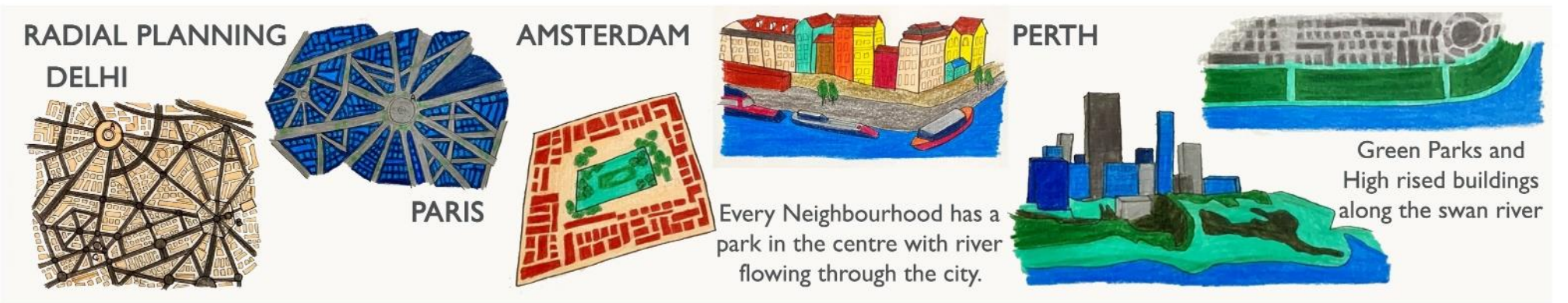
**Key Aspects of Study**  
 Maps - Significance and Types

---

**Location of Study**  
 Different Cities  
 (based on the studio exercise)

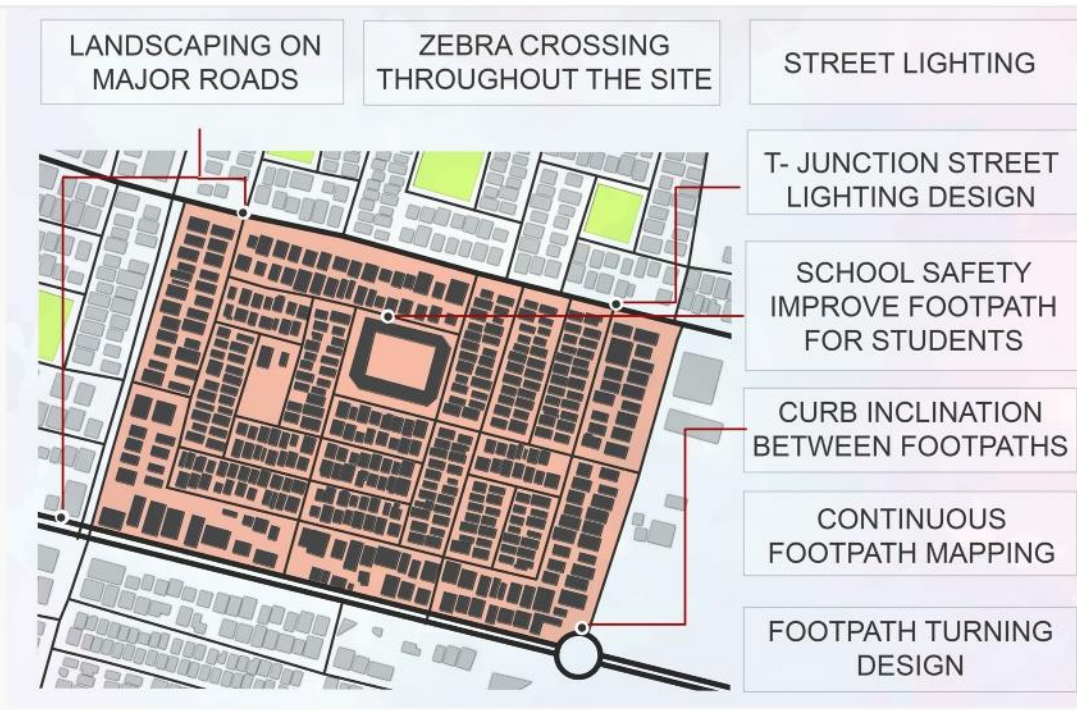


Need for Study	Survey Performed / Methodology	Proposal and Outcome
<p>The students were introduced to map-making and measurement techniques, for familiarisation with the various types of maps that are commonly used in planning such as Topographical maps, etc., This exercise helped the students to build their map reading, preparation and interpretation skills. An exercise on symbology, helped the students to understand the symbols used on maps by different organisations and their meaning.</p> <p>The studio focuses on the understanding of various types of maps and the physical properties that they represent. The key intent is to understand any region, and for the ability to understand what every symbol on the map means. The process also focussed to make the students understand the physical features around the place to analysis the resources and assets of the place.</p>	<p>The class was divided into 5 groups to prepare base maps of five cities- 2 developed and 3 developing, and understand the various properties of the city, like population density, development, city planning, rivers or the reason for the settlement. With the base maps prepared, the students consequently updated their base map as the studio progresses by refering it with the secondary sources periodically.</p> <p>The next assignment was to understand the plan and section of 8 different types of the contours. Due to the pandemic scenario the study is carried out in online mode relying more on the secondary sources.</p> <p>The observation of various cities on google earth and developing the concepts used in the planning of those cities.</p>	<p>The outcome of the study was presented via hand drafted thematic maps exploring the urban form determinants and other characteristics of the chosen cities exploring the spatial variability of specific distributions or themes such as population density, etc., Also, a basic understanding of how contours represent certain landforms.</p> <p>Students were required to individually select a city and theme of their choice and prepare thematic maps based on the census data and google earth and other secondary sources following various methods of representation.</p> <p>Towards the conclusion, the students were made aware of map preparation and interpretation at various scales, elements and symbology and contour interpretation.</p>





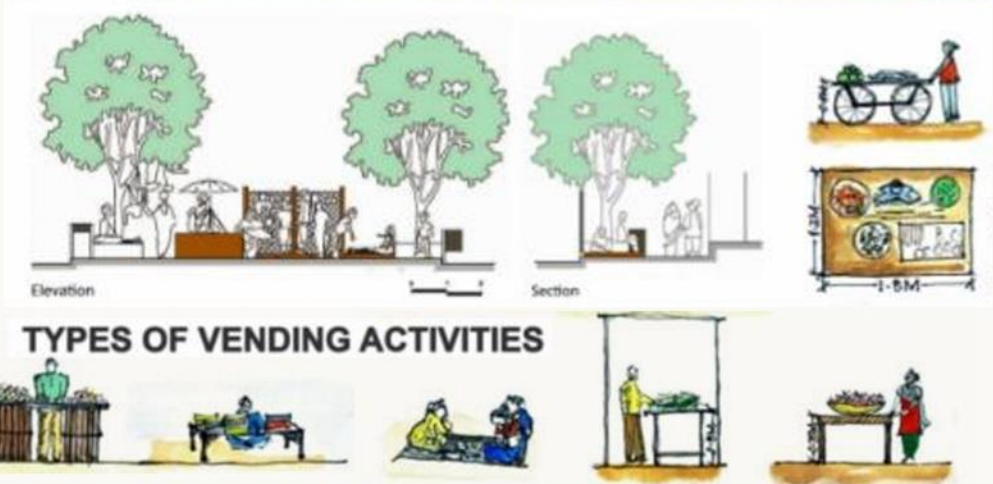
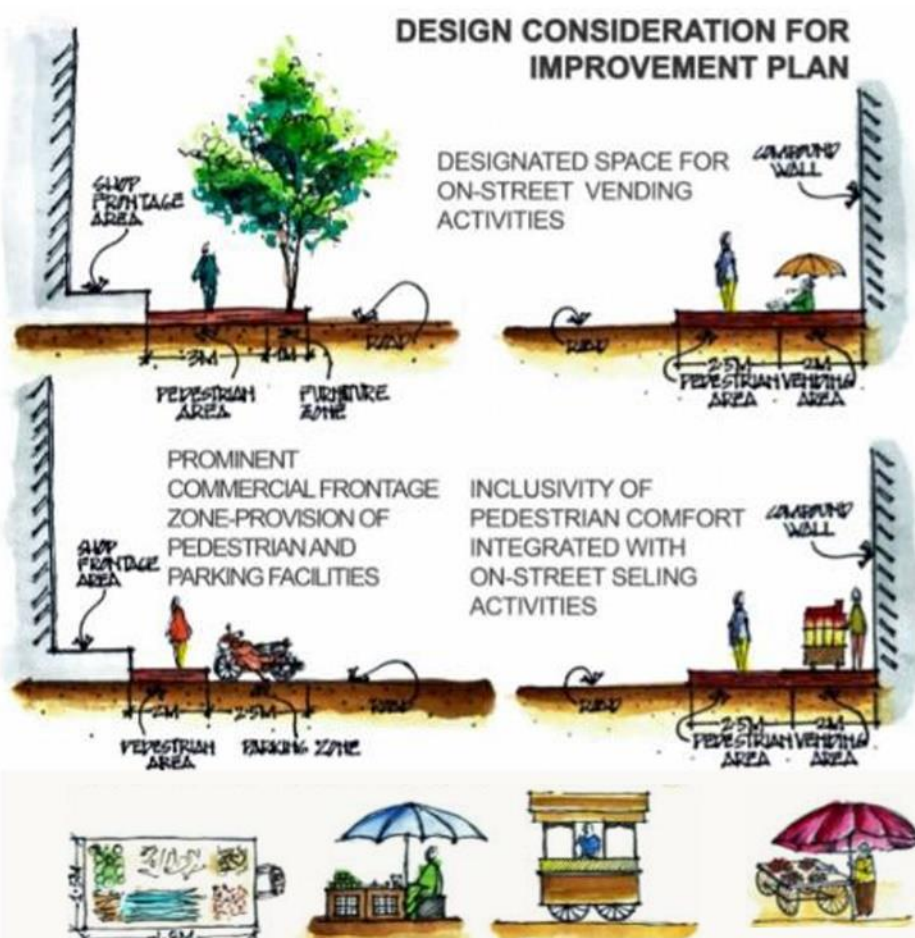
**B.PLAN**  
**YEAR II - SEMESTER IV**  
**Transport Planning Studio**  
 Mr. Bhagwat Jayeshkumar  
 Ms. Naina Gupta



**Key Aspects of Study**  
 Transportation Network and Road Safety Improvement

**Location of Study**  
 Visakhapatnam & Vijayawada

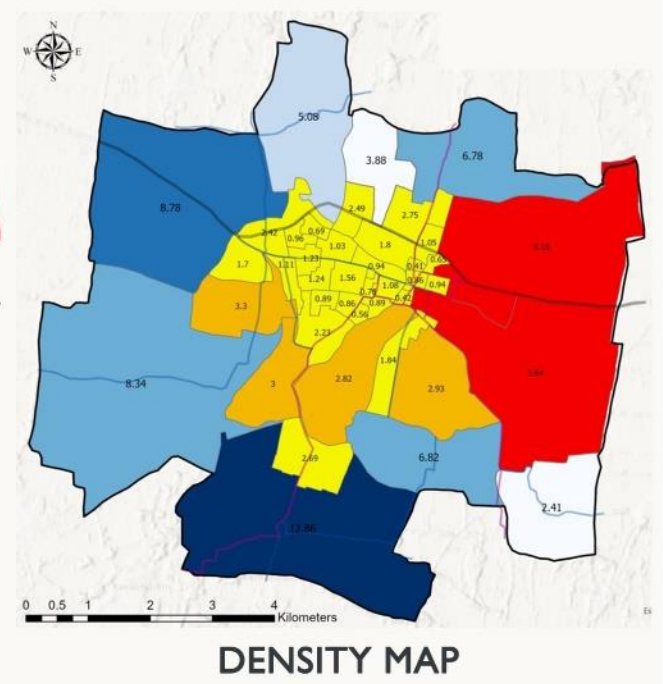
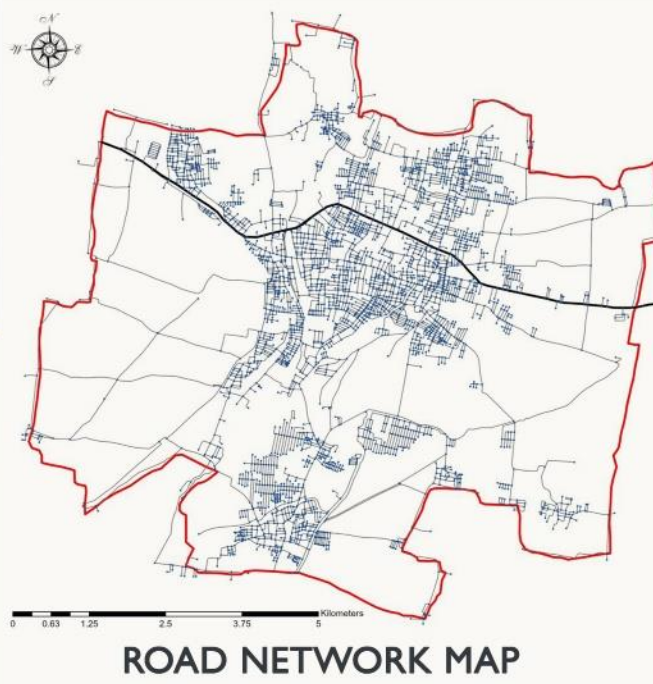
Need for Study / Methodology	Analytical Process	Proposal and Outcomes
<p>The studio is based on the objective 'To inculcate knowledge related to traffic and transport planning in real traffic and transport problems'.</p> <p>Mobility has grown dramatically over the recent past, and all activities depend on travel and transportation. Thus it is important to develop an understanding of the existing traffic &amp; transport related issues at the same time learn to conduct different survey methods &amp; techniques used to arrive at various interventions &amp; recommendations that decongests and relieve the transport issues that people face right from traffic, over congestion near CBD areas, noise pollution, Pedestrian &amp; road safety etc. Thereby to learn the implications that these interventions imparts on the society as a whole system with respect to the benefits &amp; downsides that entail every proposal.</p> <p>The students of the class were given three Assignments                      a) Individual Work                      Assignment No. 1: Identify the problems of cities.                      a) At National Level b) At City Level.                      Assignment No. 2: Conduct the surveys related to Transport Planning in the areas they live.                      b) Group Work                      Assignment No. 3: Identify the problems of the sub-city, analyse them and formulate proposals.                      This assignment No.3 has been presented by the students in this Jury. Here students were divided into groups of five or six to work on sub city level.</p>	<ol style="list-style-type: none"> <li><b>1) PEDESTRIANIZATION &amp; ROAD SAFETY IMPROVEMENT PLAN, MVP Colony, Visakhapatnam City, Andhra Pradesh</b>                              The exercise was aimed at studying &amp; analysing the existing pedestrian and school safety infrastructure at the neighbourhood in MVP colony initially developed by the Visakhapatnam Urban Development Authority.</li> <li><b>2) SMART &amp; SUSTAINABLE PARKING MANAGEMENT FOR BESANT ROAD, Besant Road, Vijayawada City, Andhra Pradesh</b>                              The study was done to review the existing scenarios or problems i.e., unauthorized parking, lack of walking spaces, congestion and discrete vending zones, and the main focus was to study the parking behaviour of the commuters in the area, parking facilities provided and the quality of the facilities, existing provisions, and the supply – demand gap happenings.</li> <li><b>3) ROAD IMPROVEMENT PLAN FOR NARSIPATNAM Narsipatnam, Andhra Pradesh</b>                              This study provides an outline of how the road improvement plan can be implemented by conducting respective surveys to minimize accidents within the town.</li> <li><b>4) SQUARE DEVELOPMENT OF BENZ CIRCLE, VIJAYAWADA, Benz Circle, Vijayawada City, Andhra Pradesh</b>                              This study aims at the development of the Benz circle junction for the free flow of vehicular traffic along with reducing the delays and providing design improvements.</li> </ol>	<p>The comprehensive spatial and policy level interventions recommended for the site area ranges from interconnected and densified pedestrian networks to improving the school safety. The design recommendation &amp; interventions ensures the walkability &amp; comfort of the pedestrians that is brought about as the qualitative measure of the city that inspires walking &amp; school trips with universal accessibility, assured safety &amp; security.</p> <p>After the analysis of the collected data the innovative parking proposals have been given on the basis of different parking policies and this will help to move from a chaotic parking system to a sustainable organized parking system that will be effective in long-run to solve the parking issues in Besant Road.</p> <p>The critical zones were classified based on the parameters for improvement. The proposals like traffic calming measures, road safety measures, road infrastructure improvement, reducing the encroachment levels, measures to reduce traffic congestion and minimizing accident-prone areas were proposed for the critical zones to improve. The expected outcome of this study is to improve the roads of Narsipatnam town so that the above-listed problems could be reduced.</p> <p>This study shows all the survey results and analysis done along with the possible solutions proposed with their cost estimates for the problems regarding the traffic flow, major delays and design.</p>



**B.PLAN**  
**YEAR III - SEMESTER VI**  
**Master Plan 2041 - Tanuku, AP**  
 Ms. Ekta  
 Dr. Abdul Razak Mohamed

**Key Aspects of Study**  
 Sustainable development & Balanced Socio-Economic Growth

**Location of Study**  
 Tanuku, AP



**Need for Study**

The studio aims at preparing Master Plan focusing at sustainable development evolving development vision and road map for balanced socio- economic growth of Tanuku municipality by regulating future spatial development to be envisaged for the horizon year, 2041.

Tanuku is a town and a 1st grade Municipality in the West Godavari district of the Indian state of Andhra Pradesh, situated in the Godavari Delta region.

One of the main objective is to achieve inclusive and sustainable development of municipality and its influence area i.e., Area of Interest. The demand assessments, land management and proposals of each sector of the master plan will be planned for the horizon year, 2041.

Review of the previous/regulating plans and determine the Area of Interest (AOI) of the Master Plan . Base Map assessment and base map preparation for the AOI.

Promoting desirable patterns of land uses to prevent wasteful development and minimize the cost of public infrastructure and utilities and other social services.

Demand Assessment for the plan year based on the current scenario and identify the key growth drives of the municipality . Define strategies for promoting the proposals for the development of the AOI.

**Survey Performed / Methodology**

The studio took part in 4 stages.

1. Study of various masters plans of different cities.
2. Comparison between various masterplans with respect to different sectors
3. Study of various city concepts like low carbon city, green city etc.
4. Preparation of tanuku masterplan based on the literature study.

a. Literature review  
 b. Data representation  
 c. Analysis  
 d. Proposals

Due to the pandemic situation none of the surveys were conducted on site and all the data were gathered from secondary sources. Some of the students visited the some of the offices and gathered some secondary data.

**Project Context**  
 Tanuku is First Grade Municipality in West Godavari district of Andhra Pradesh with population of 77962 as per census 2011 and an administrative capital of Tanuku Mandal. Eluru Municipal Corporation is the District headquarters located at a distance of 70 km and 155 km from the State Capital Amravati. It is located at 16.75 °N 81.7 °E latitude and longitude and has an average elevation of 13 m above the MSL.

**Proposal and Outcomes**

Analysis was carried out based on different sectors and proposals was given to the same..

Preparation of Master Plan 2041, to achieve inclusive and sustainable development

Prepare a master plan considering the visions and objectives established through the stakeholders to achieve the regulated and planned development in the area

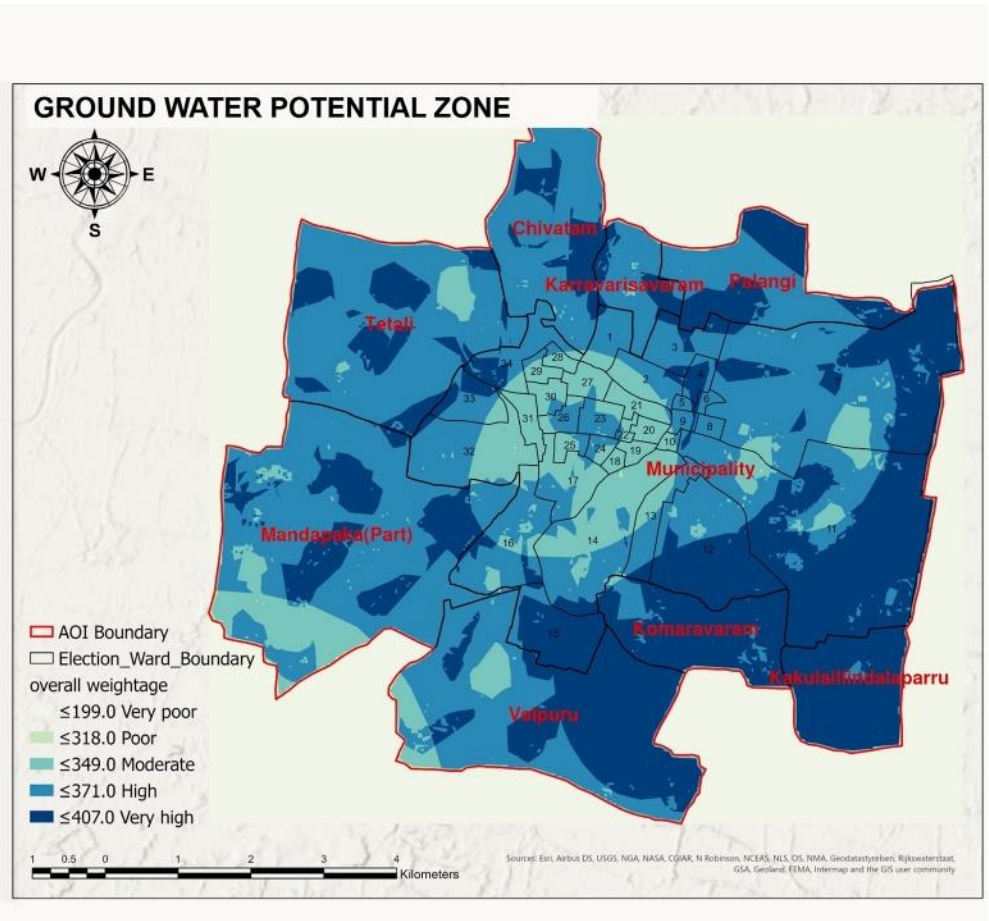
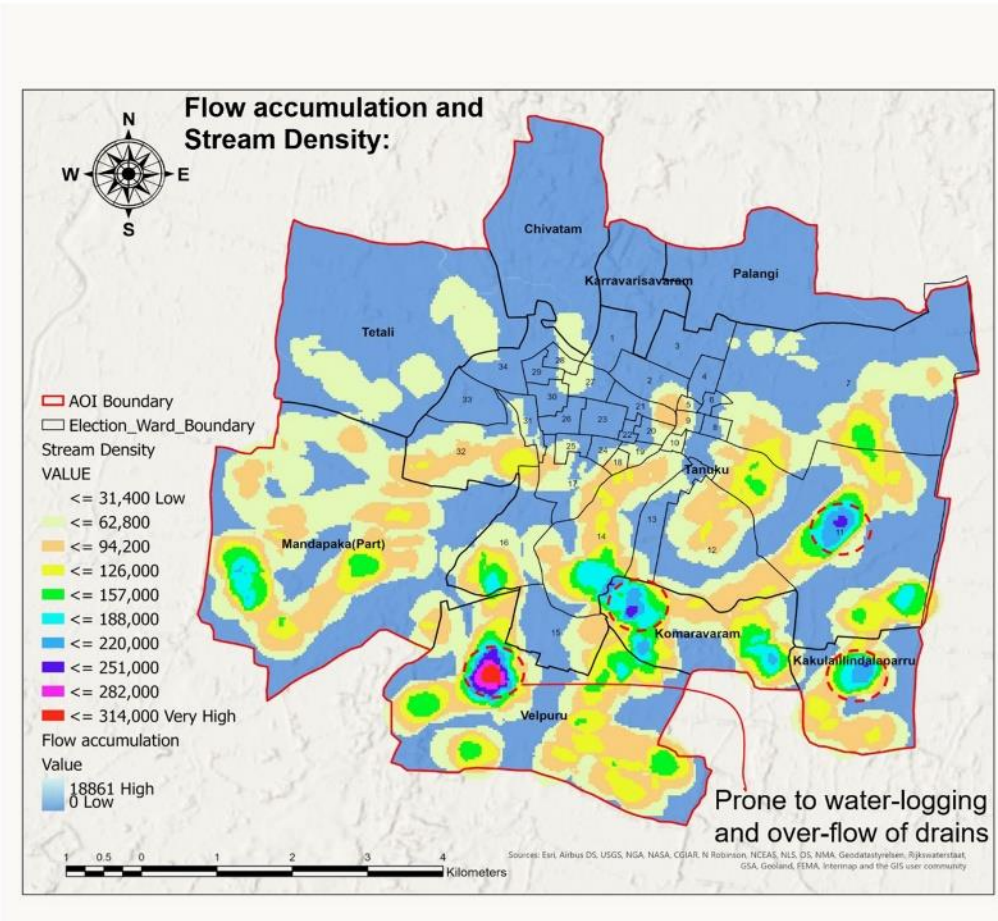
Adopt environmentally sustainable approaches and financially sustainable approaches;

Appropriate land management approaches for selected projects

Promote Land use and transport integration strategies and concepts such as TOD, NMT and Walkable Neighbourhoods.

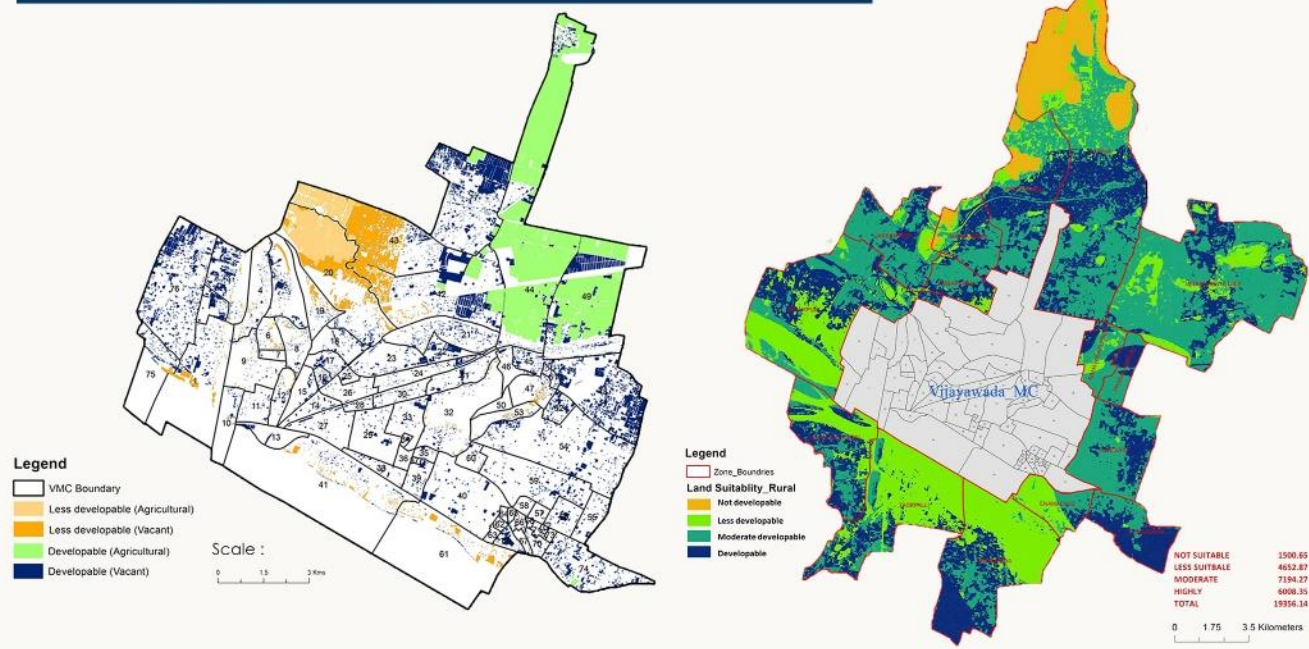
Frame Development Control Regulations for the Master Plan area considering the development potentials and land market

The final set of proposals were grouped under eight sectors land use, trade industry and commerce, housing, transport, infrastructure, tourism, urban design and environment.



**M.PLAN (URP)**  
**YEAR I - SEMESTER II**  
**Development Plan of Vijayawada, 2041**  
 Dr. Ayon Tarafdar  
 Mr. Valliappan AL

**Land Suitability Map for Developable Land within & outside VMC**



**Name of the Studio**  
 Urban Planning Studio

**Location of Study**  
 Vijayawada, AP

**Need for Study**

Vijayawada as a city doesn't have any Masterplan document on the whole, in order to regulate and guide the growth of the city. The city doesn't have enough potential to attract people in search of employment and the growth has been unregulated resulting in a chaotic development.

The direction of expansion due to growth in Vijayawada needs to be channelized in order to benefit the city and its residence by providing various incentives through this exercise helps in the enhancement of its image, and further translates into economic upliftment.

**Survey Performed / Methodology**

Critical review and analysis for the selection of study area.

Forming the Overview of the project and with preliminary Observation and Findings, Formulation of Overall Vision of the masterplan project and objectives to achieve them.

Then the Development plan formulating process was sub divided into 7 sectors namely, Land use, Economy, Physical Infrastructure, Social Infrastructure, Housing.

The seven sectors with the preliminary sectoral analysis, they formed a set of sectoral objectives, which were in-line with the overall objectives of the vision statement. Then the data that were necessary were collected and analysed for identification of issues and achieving the sectoral objectives.

Two Sets of proposals were formed based on the key issues and findings. A set of Inter- sectoral proposals and another set of Individual sectoral proposals along with strategies and recommendations for Improving liveability and resilience index were also formed.

The Development plan of Vijayawada 2041 was formed by the integration of all the proposals and recommendations to achieve the overall objectives.

**Analysis and Proposal**

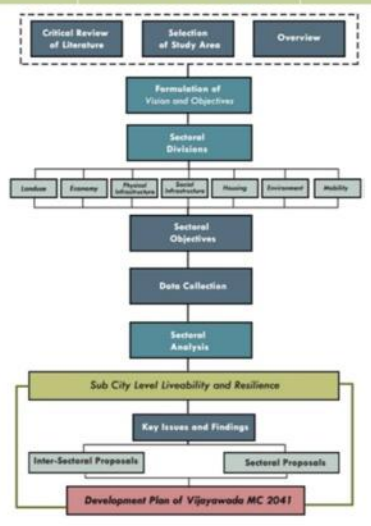
Sectoral analysis includes Land use, Economy, Physical Infrastructure, Social Infrastructure, Housing. Most of the sectoral analysis included gap analysis, Service coverage analysis, Need assessment, Thrust sector analysis, Sprawl analysis, etc. and for the city level various Liveability and resilience indicators were identified and ward level and city level performance was assessed.

Amalgamating the various issues identified after analysis lead to the formation of the six development concepts, namely, Decentralized provision of services, Economic proliferation, Socially Liveable Space, Networked Urban functions, Ecological balanced development, and Inducing a city identity.

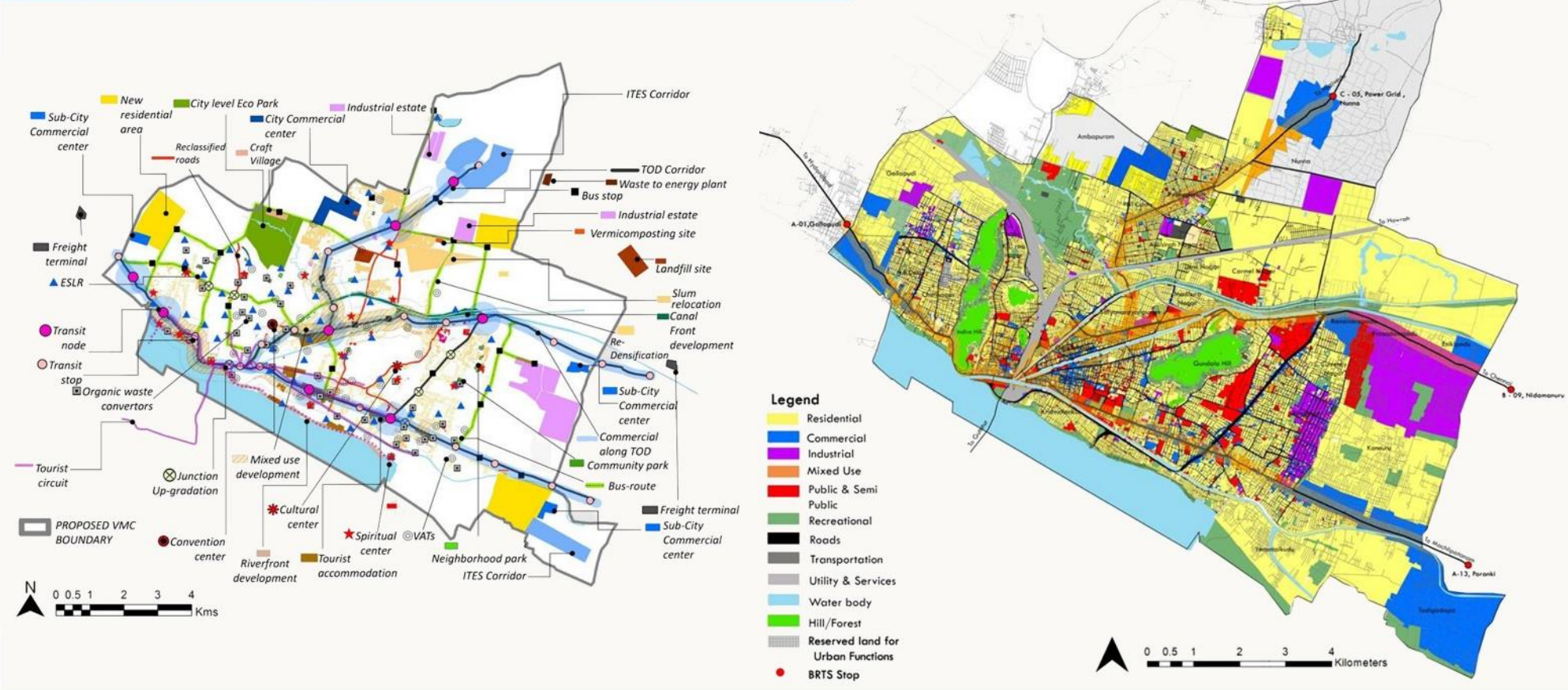
These development concepts further lead to 8 cornerstone proposals i.e., City Eco Park, City Bypass, City and Sub-city Commercial Centre, Riverfront redevelopment, Transit Oriented Development (TOD) Corridors [Bus rapid transit system (BRTS)], City Freight and Logistics hub, IT Park/Corridor, New Residential areas and 19 sectoral proposals.

The Urban Development Plan incorporates several innovations for the development of the Vijayawada city. Along with the planned development of new regions, one of the main focus has been to encourage the rehabilitation of existing areas. The Urban Development Plan envisages vision and policy guidelines for the perspective period up to 2041.

**The Process**



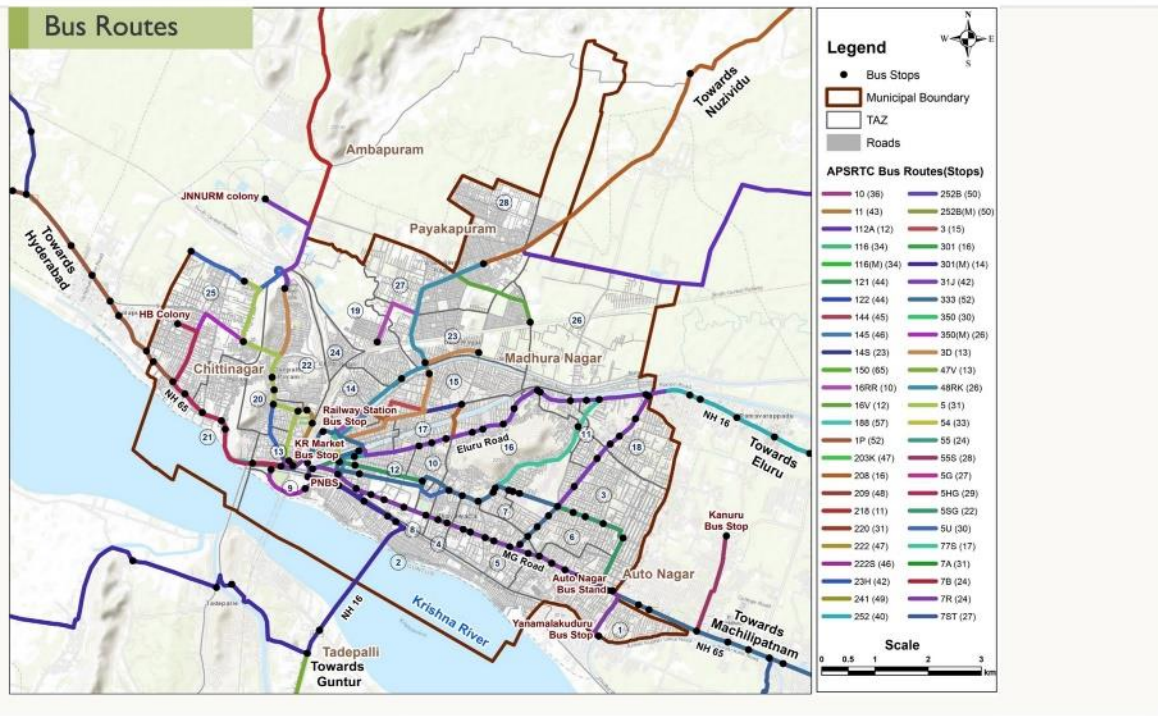
**Synthesis of Proposals and Proposed Landuse Map of VMC with extended boundary**



**M.PLAN (TIP)**  
**YEAR I - SEMESTER II**  
**Appraisal of Public Transportation: Vijayawada**  
 Ms. Naina Gupta  
 Dr. Prasanth Vardhan

**Name of the Studio**  
 Transport Planning Studio

**Location of Study**  
 Vijayawada, AP



**Need for study**

The public transportation systems are accepted widely to be the sustainable way of transportation and the bus systems are the cheapest option in the arsenal. It provides low-cost transportation for all sections of the society. Due to its flexibility, it has larger advantage over the other systems of mass transit. It can provide cleaner environmental conditions, faster travel speeds, good mobility and economic growth. Buses being one among the sustainable transport solutions for the cities, to attract more people towards buses, a well-organized and well-distributed bus network is imperative.

Due to the pandemic situation, the city of Vijayawada was selected for the studio exercise, considering the availability of data. The city of Vijayawada, is a flourishing town in the banks of river Krishna in the state of Andhra Pradesh. With a population of above 10 lakhs, it is the second largest city in the state. It is well connected with road, rail, water and air transport. However, the vehicular registration data from 2016 shows that 74% of the vehicles registered are two-wheelers, while buses are mere 2%. The observed mode share for buses in the city was 31.5% as per CMP 2017, while two-wheelers comprised of 52%. This may lead to congestions in the city roads, slowing down the journey speeds and raising the time spent on road. Also, the increasing dependency on personal vehicles generates environmental related issues. In order to promote and improve the bus transportation system, the appraisal of the existing bus transport system is necessary.

**Survey Performed / Methodology**

Extensive study of literature was conducted in the primary stage to understand the best practices, concepts and methods in PT network planning, TOD, Mode choice modelling, Benchmarking, connectivity and accessibility.

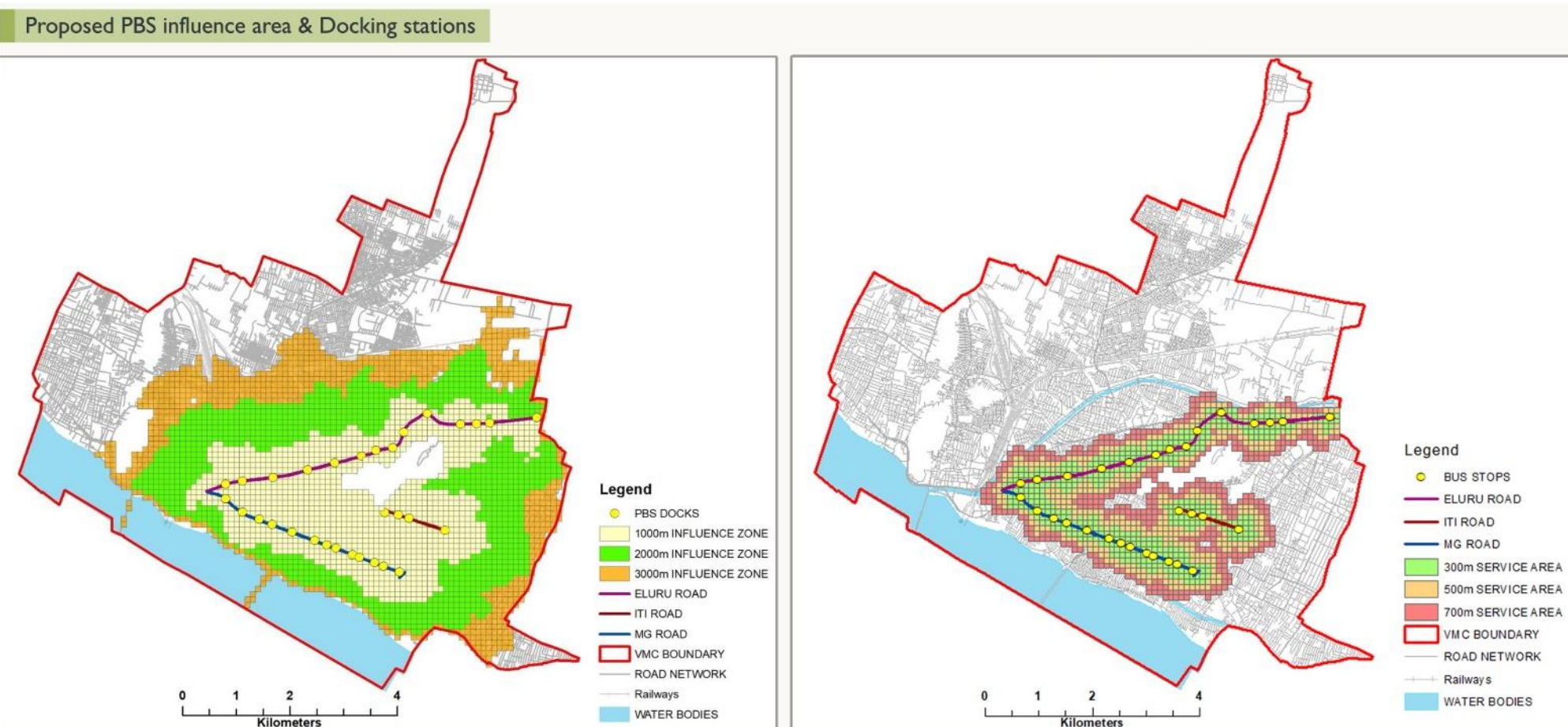
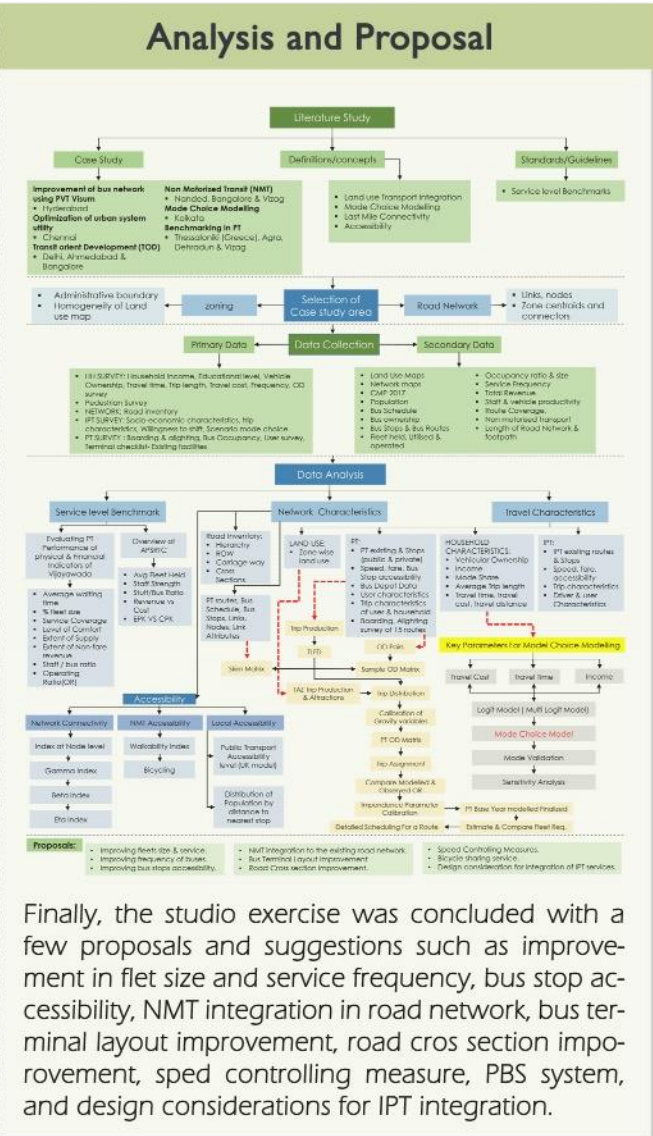
In the second stage, the basic study on socio-demographic profile of the city as well as the public transport system was conducted together with the study of road network, land use and bus routes.

Simultaneously, a benchmarking methodology was finalized and LOS for existing scenario was assessed to identify the gaps and set targets for the future.

The road network, network attributes, bus stops, bus routes, bus schedule, and 30 TAZs were constructed in Visum software. After generating PT trips using MS Excel, PT trip distribution and assignment was performed using Visum.

Together with this, the mode choice modelling was conducted using the finalized 'multinomial logit model' method with the data from a small online HH survey of 85 samples.

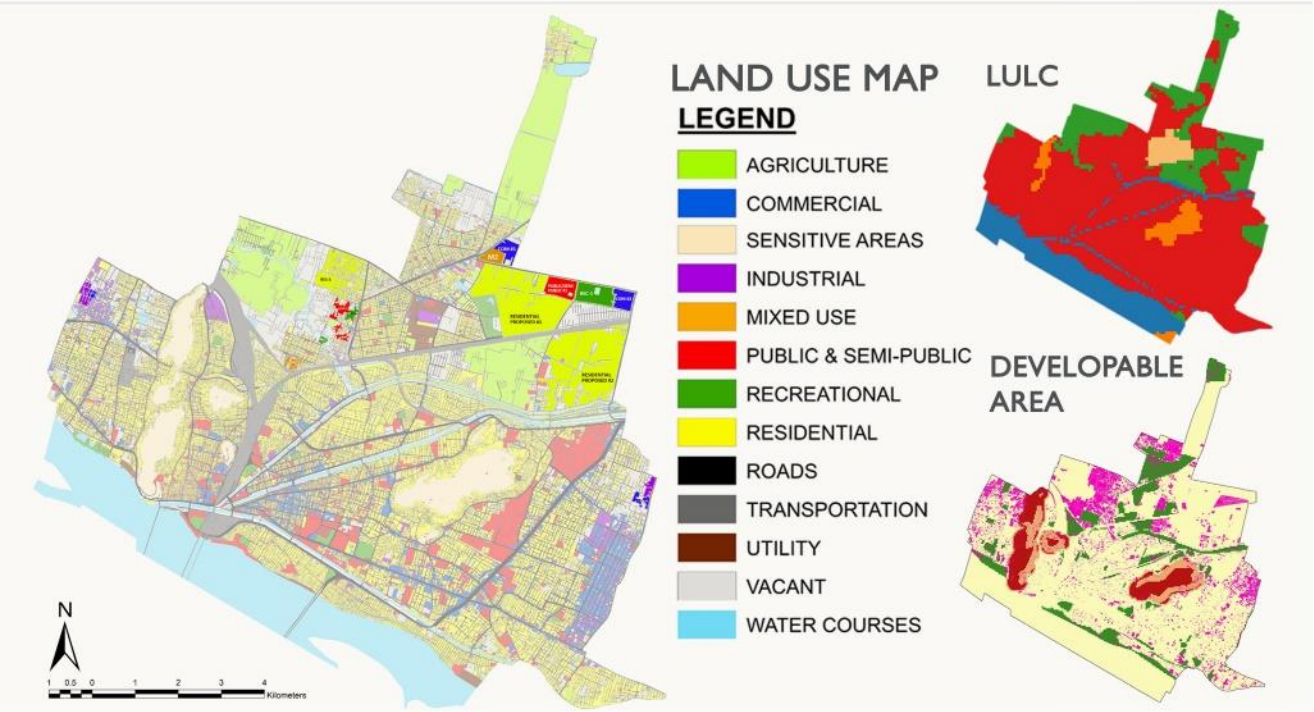
The PT modelling was done for base year and horizon year for various scenarios, in order to plan for the future fleet requirements. Over and above that, walkability index in the selected areas, PBS demand in the city, and NMT integration with PT was assessed.



**M.PLAN (EPM)**  
**YEAR I - SEMESTER II**  
**Environmental Management Plan for Vijayawada, AP**  
 Mr.Rajeev R  
 Dr.Adinarayanane R

**Name of the Studio**  
 Urban Environmental Planning Studio

**Location of Study**  
 Vijayawada, AP



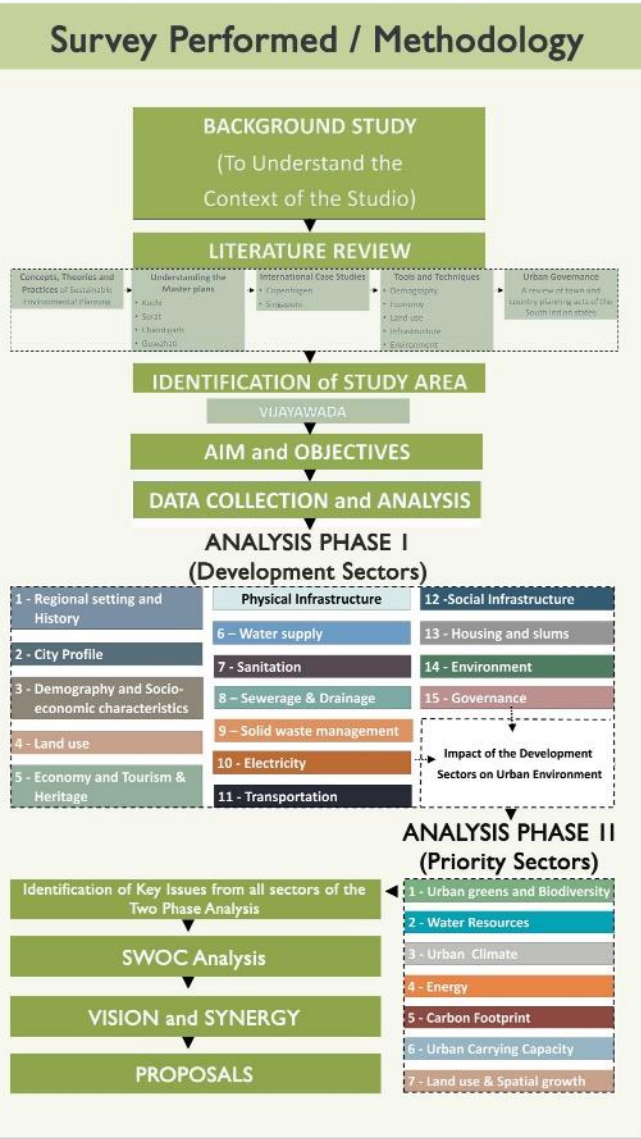
**Need for Study**

The studio exercise is aimed to integrate the potential and extent of environmental concerns within the urban planning dogma to synchronise the environmental and spatial processes to develop a sustainable environmental planning model for Vijayawada City.

Considering the existing pandemic scenario and the limitations of access to primary data, the scope of the study was restricted. Thus the Studio exercise aims to develop an ENVIRONMENTAL PLAN FOR VIJAYAWADA CITY, which will address specific issues concerning the urban environment, unlike a generic Master Plan.

The vision is to formulate a comprehensive cross-sectoral plan that envisions Vijayawada's long-term viability based on its human, biological, and geographic diversity, in order to boost the city's adaptive potential by fostering a balanced growth of the economic and environmental sectors, as well as adequate infrastructure.

An extensive literature study has been carried out at the initial stage primarily focusing on the various concepts, theories and practices of sustainable environmental planning with tools and techniques to critically analyze the generic sectors involved. Master plans of various cities have also been studied both at national and international level to understand the whats and hows of environmental planning.



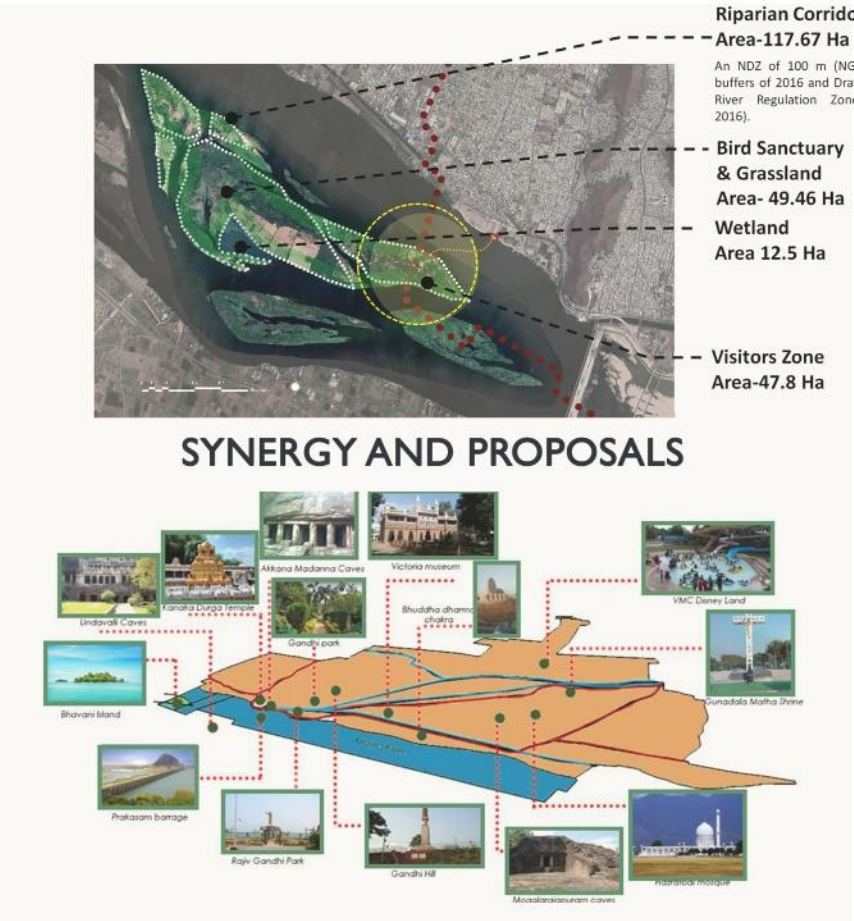
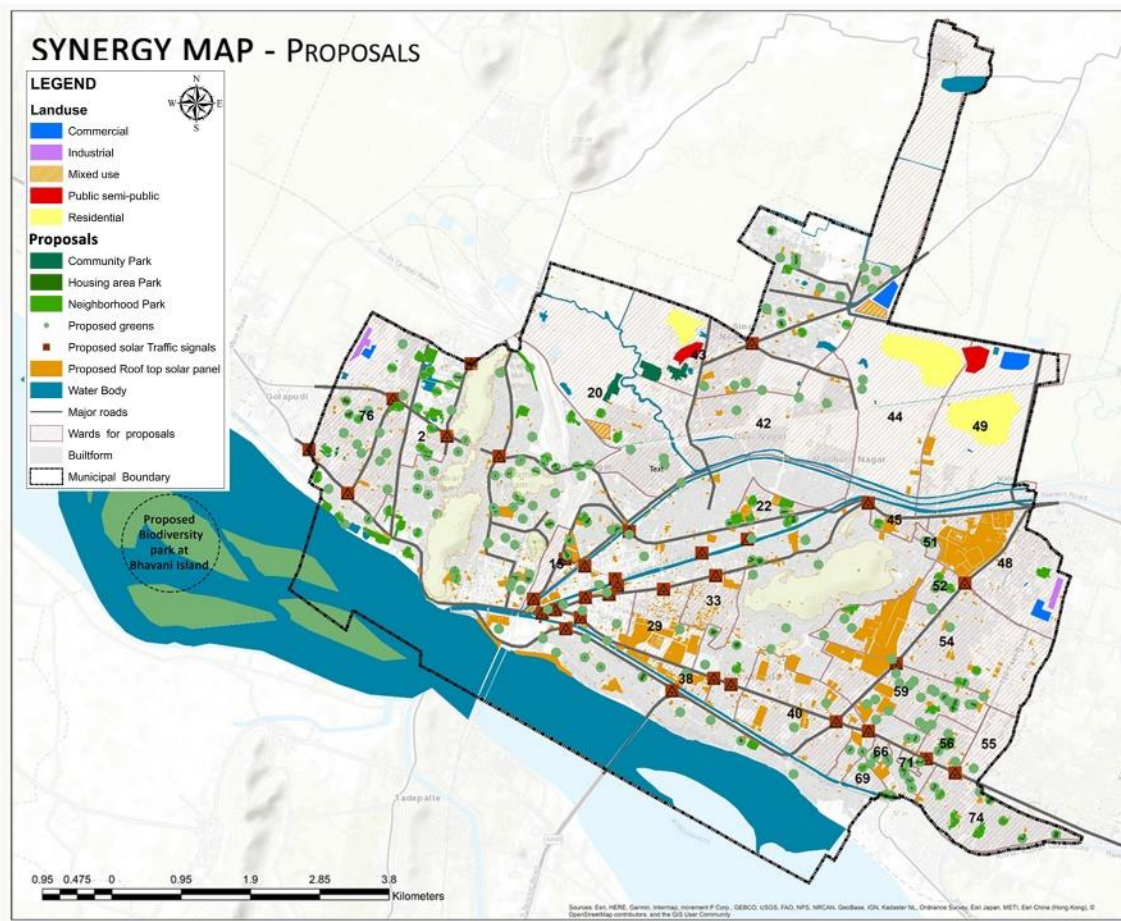
**Analysis and Proposal**

The Phase - 1 of the analysis is primarily focused on generic sectors like Regional setting and History, Demography and Socio-Economic characteristics, Landuse, Economy and Tourism, Physical and Social infrastructure, Housing and Slums, Environment and Governance. The impacts of these development sectors on the urban environment leads to a set of relative sectors which may be studied in detail to get a clearer picture of the same, addressing all the concerns.

So the Phase - 2 of the analysis is oriented towards studying the exclusive sectors like Urban Greens and Biodiversity, Water Resources, Urban Climate, Energy, Carbon Footprint, Spatial Growth and Urban Carrying Capacity.

The inferences have been framed based on the issues and problem statements identified by the various sectoral teams so as to decide upon the way forward by proposing various strategies and interventions to develop a sustainable environmental planning model for Vijayawada City.

Understanding the intersectoral linkages after the two phase analysis the final set of proposals and strategies are grouped under three heads, Promoting Balanced Growth and Development Viability, Clean and Green Energy, Enhancing Urban Blues and Greens.



B.PLAN

Thesis by:  
Laivy Rose Augustine

Guided by:  
Dr. Ainarayanane R  
Associate Professor  
Department of Planning, SPAV

# An Integrated Assessment of Flood Vulnerability - A case of Pathanamthitta district, Kerala State, India

## Premise

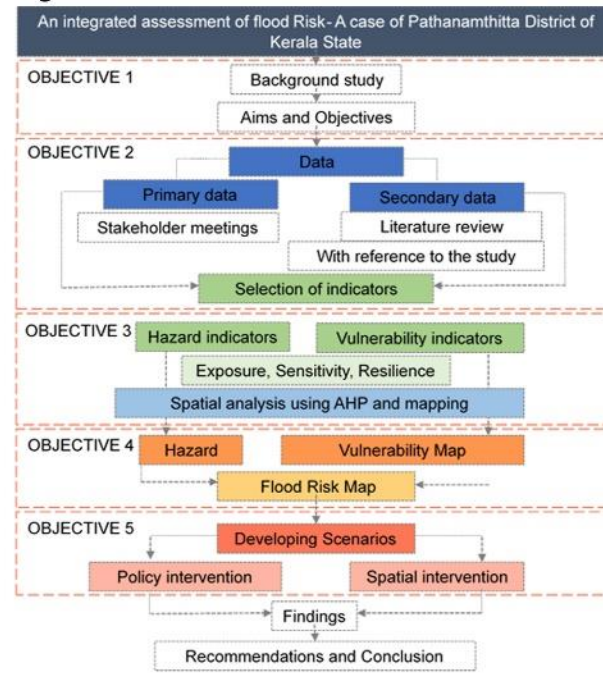
Flood is one of the serious, common and dangerous natural disasters that many countries are facing. Flooding greatly depend upon the precipitation levels. It is said that globally, by the end of the 21st century, the monsoon precipitation is likely to intensify due to the increase in the atmospheric moisture content. The projections also suggest that many countries will come under the high hazard in the coming future. This extreme climatic event has the potential to cause serious impact on human health, security, livelihood and poverty. When such events hit developed countries, the human loss could be minimised as they have better warning systems and technology to reduce its risk. But in developing countries, as they lack in many aspects of flood risk management, the impact of floods could have more harmful effects than that of developed countries. India which is vulnerable to many disasters, has around 12 per cent of its land prone to floods and river erosions. And even the precipitation trend seen in the country over the past years shows an alarming need for flood risk studies and management. The above flood issues are not exempted especially in Pathanamthitta district of Kerala state, India. Lack of preparedness to flooding situations can be seen in the study area. Lack of flood management measures in the flood vulnerable areas leading to devastating loss and extreme panic. The aim of the study is to establish a flood vulnerability index through vulnerability assessment and the trend followed in the study area and to minimise the intensity of such events and reduce its adverse effect through various coping strategies in the study area. The research study addresses the flood risk of the Pathanamthitta district through certain objectives framed to reach the destination outcome.

## Objectives

1. To study and understand the impacts of previously occurred floods in the study area (Pathanamthitta district, Kerala).
2. To identify the control parameters which decides the flood hazard and vulnerability in the system, through an integrated approach.
3. To explore the vulnerability and hazard indicators to demarcate the vulnerable zones of the study area.
4. To develop a risk map through spatial analysis using Analytic Hierarchy Process (AHP) to prioritise the vulnerability indicators.
5. To develop a flood plain zoning map and recommend sustainable strategies through spatial and policy intervention to minimise the adverse impact of flood in the study area.

## Methodology

The IPCC guidelines has been applied to assess the hazard and vulnerability of the district for further risk assessment of the study area. The statistical technique i.e., Analytical Hierarchy Process (AHP) has been employed, which is a multi- criteria decision-making approach for ranking and giving weightages to the hazard and vulnerability parameters. Further the GIS software has been employed for the spatial mapping of precipitation levels, elevation, slope, land use land cover (LULC), normalized difference moisture index (NDMI), flood inundation levels, buffer analysis and mapping of other non-spatial data variables to generate flood hazard and flood vulnerability. By employing GIS, through overlay analysis the risk map is generated which shows the high, moderate and low risk zones of the study region.



## Planning Tools and Techniques

1. Indicator Based Approach
2. IPCC Risk Assessment Approach
3. Multi- Criteria Decision Analysis (MCDA) approach
4. Analytic Hierarchy Process (AHP)- Statistical Technique
5. Overlay Analysis using ArcGIS

## Analysis and Proposal

After calculating the AHP index/ weightages for selected hazard and vulnerability parameters, overlay analysis was carried out to estimate the hazard, sensitivity and adaptive capacity based on the weightages arrived through AHP. Then the vulnerability formula (vulnerability = sensitivity - adaptive capacity) was applied to estimate the vulnerability and finally the risk formula (risk = hazard\*vulnerability) was applied to estimate the risk index. The factors leading to hazard in a region are mainly natural factors. There is a limitation in intervening in these factors and thus reducing the risk of a region. Unlike hazard, vulnerability of the region can be reduced. Reducing vulnerability will help to decrease the possible loss caused by the flood. By identifying the factors which are leading to vulnerability and adopting various mitigation and adaptation measures can help in reducing the vulnerability. The villages which are having high values of both hazard factors and vulnerability factors are classified as high-risk zones. Some of the villages which are having high values of hazard factors does not include in the high- risk zone because of their less vulnerability values. This means that even though topographically they are highly prone to floods, their socio- economic and infrastructure factors does not increase the impact of floods on these regions compared to many other regions in the district.

### 1. Structural Measures

- Provision of Embankments/Banks, Flood Walls, Flood Levees
- Provision flood emergency infrastructure
- Restoration and provision of reservoirs and other Water Storages
- Catchment Area Treatment/Afforestation
- Provision of Sustainable Urban Drainage Systems (SUDS)

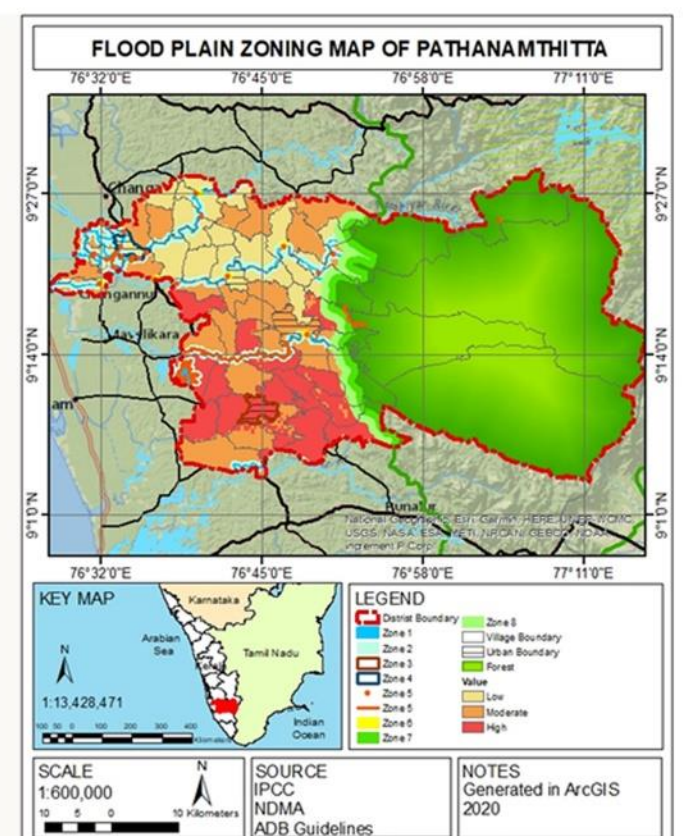
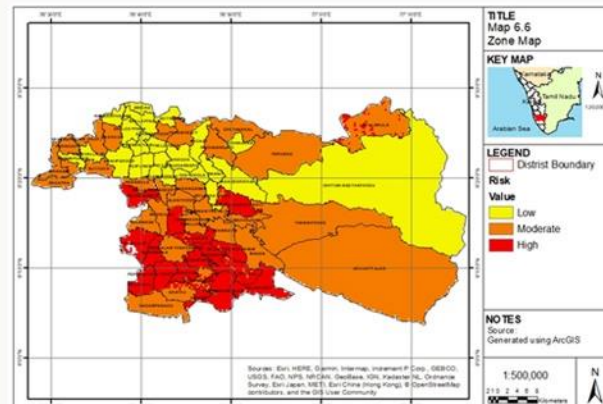
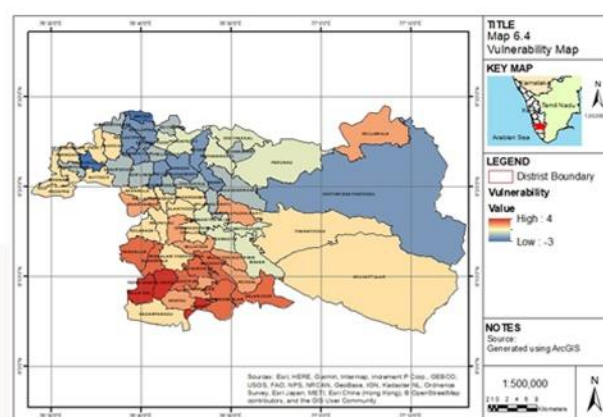
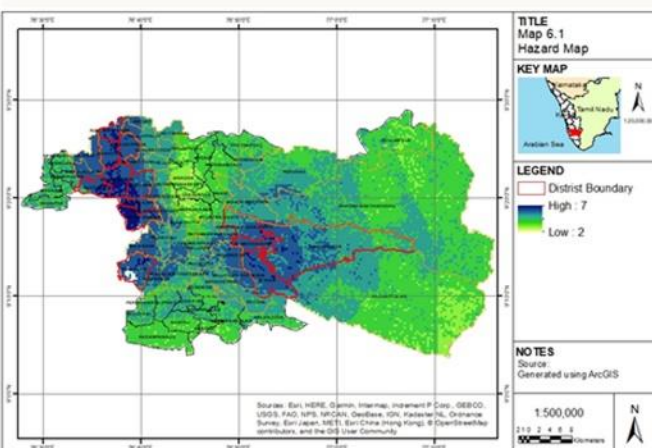
### 2. Flood Plain Zoning

The entire study area is divided into different flood zones according to their risk to floods and, provisions and restriction of activities for each zone are provided along with zoning.

### 3. Other Recommendations

- Bye-laws for Buildings in Flood Prone Areas
- Wetlands: Conservation and Restoration
- Provision of flood education & flood insurance
- Provision of emergency plans for flood prone areas

Maps showing Hazard, Vulnerability, Risk Index of district to floods and Flood Plain Zoning Map of Pathanamthitta



M.PLAN(EPM)

Thesis by:  
Rahul Roy

Guided by:  
Dr. Ayon Tarafdar  
Associate Professor  
Department of Planning, SPAV

# Planning in the context of Urban Heat Vulnerability: A Case of North East District, Delhi

## Abstract

India is known to be susceptible to heat conditions. However urban areas experiences acute heat stress which attribute to the synergistic effect of urban heat islands (UHI) arose from locked built character and severe heat wave (HW) occurrence. This study identifies the heat vulnerable areas in North East District of Delhi, based on a series of parameters under 'exposure, sensitivity and adaptive capacity'.

A joint study by IMD and IITM (Indian Institute of Tropical Meteorology) 2017 has revealed that Delhi's heat index has increased by 0.6°C per decade in summers and 0.55°C during monsoon. Delhi's summers and monsoons have experienced temperature rise i.e. summer and monsoon are hotter by 3.6°C and 3.3°C on the heat index compared to the 1950s. North East district of Delhi was chosen as the research area based on its challenged socio-economic condition and erratic built pattern.

Population density, Relative humidity (RH), Ambient temperature, Urban Heat Island index (UHI) corresponds to exposure parameters where as NDBI, NDWI, NDVI and Albedo indices were analyzed under sensitivity parameter. Ten identified social indicators from secondary sources were assessed to understand adaptive capacity of the district. The indicators were derived from Remote Sensing sources and analyzed using established algorithms. The parameters were normalized and overlaid using spatial analyst tool of GIS to arrive at heat vulnerability mapping of the entire district with varying levels of heat vulnerability. Further an area of neighborhood scale has been analyzed based on physical, climatic and perception indicators to device policy and framework guided mitigate measures.

## Analysis and Proposal

A four step process has been adopted to generate heat vulnerability gradient for the district and grass root analysis of the vulnerable zone.

It starts with the mapping of indicators under the parameters defined by IPCC. The second step uses weighted index method to rank these indicators based on logic adopted from best practices and national average trends. This was done to normalize the all indicators having differential units.

Further overlay analysis of indicators under exposure, sensitivity and adaptive capacity was performed using Geo-spatial technique. Overlay analysis of exposure and sensitivity produces Thermal load map of the district where as socio-economic indicators derived from census produces Social vulnerability Index of the district.

These outcome of overlay analysis was used to generate final Heat vulnerability map of the district using spatial calculator of GIS based on algorithm provided by IPCC i.e. Vulnerability = (Exposure + Sensitivity-Adaptive Capacity)

Recommendation focuses to device policy based strategies. Simulation existing built structure and its relation with sky view percentage revealed that built pattern having wider eye sight plane can potentially improve dynamic potential in heat pockets to lower down the temperature.

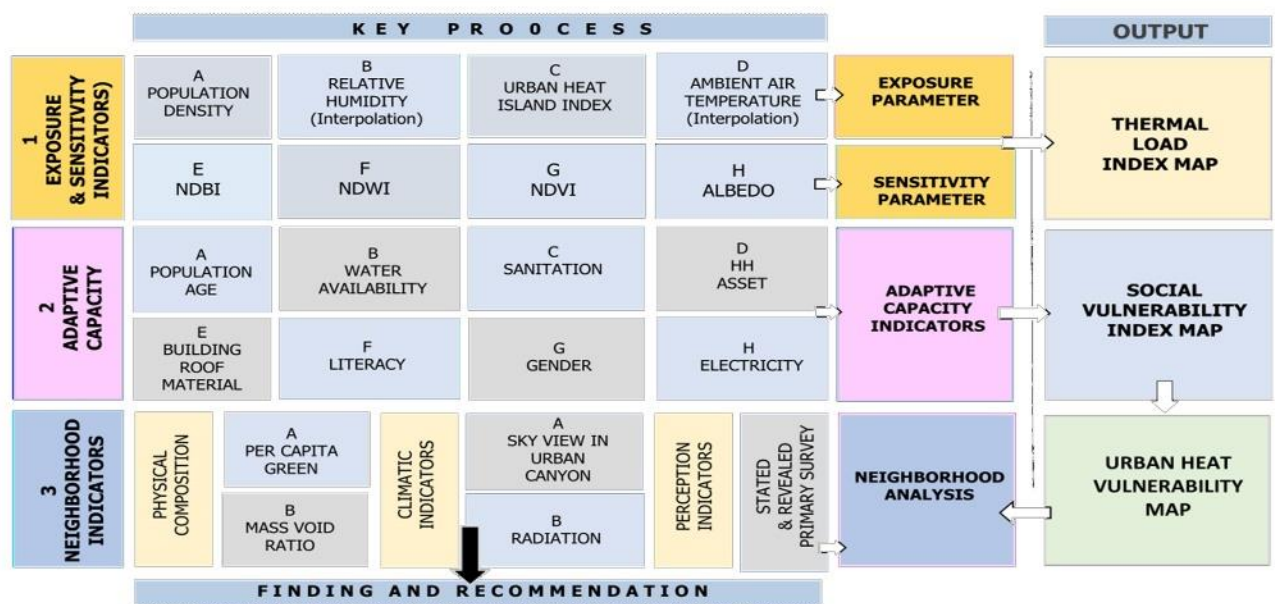
The other recommendation includes high albedo materials, enforcement of thermal insulation and green roofs by local authorities.

Preparedness framework accounts three phases i.e. pre-heat wave, during the heat wave and post heat wave responsibility of local authority and other institutional mechanism.

Triad technique of planning namely protective, defensive and offensive measures has been recommended. Protective measures address the driving nature of land use, defensive measure addresses the redevelopment and retrofitting measures to combat heat vulnerability where as defensive measures will enforce building bye laws and enforcement of heat action framework.

## Research Framework

The research framework revolves around the parameters of vulnerability assessment defined by IPCC. The final heat vulnerability map of the district is further analysed at neighbourhood scale with respect to its built characteristic, micro-climatic aspects added with perception based survey to generate recommendations.



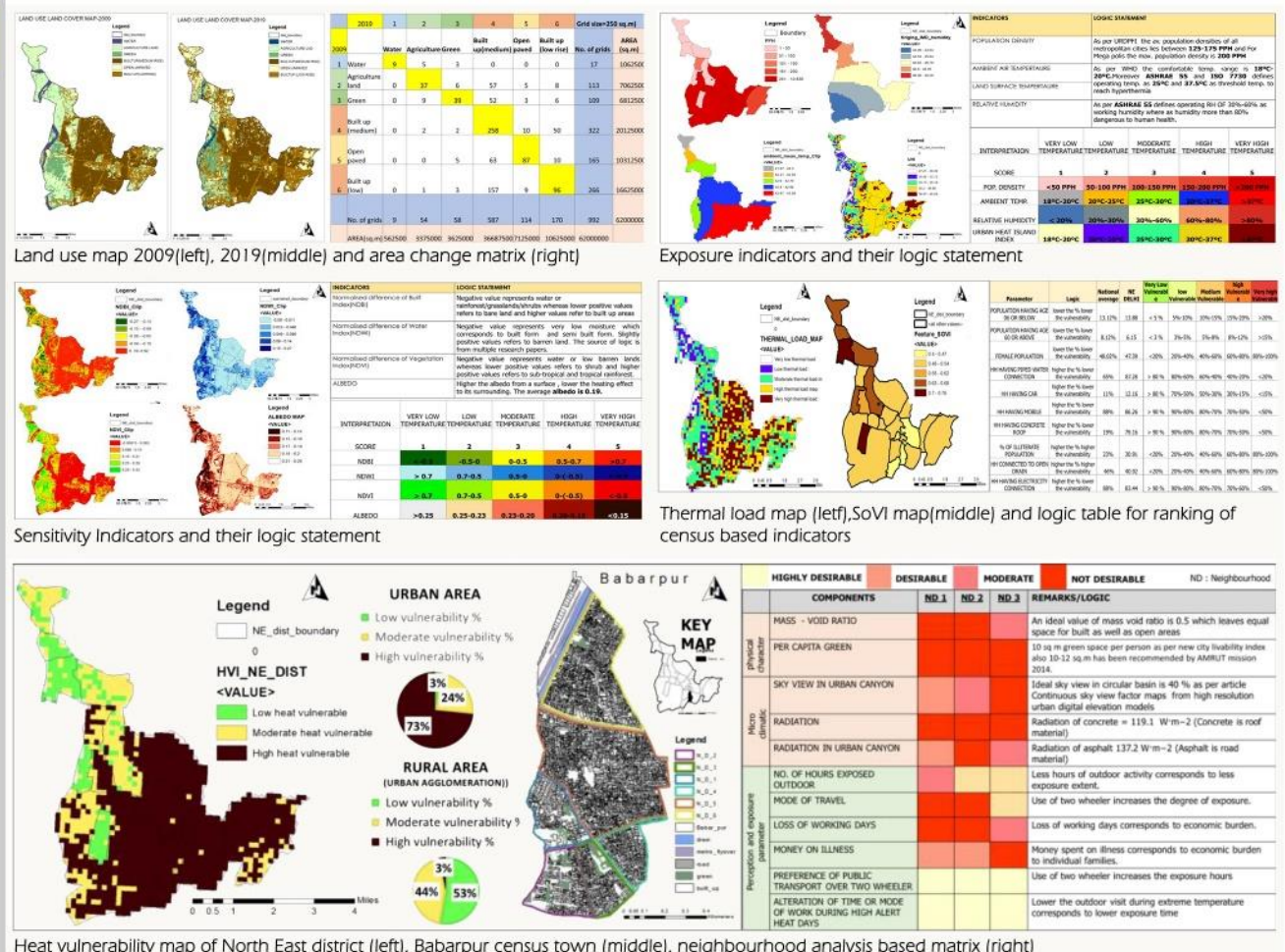
## Outcome

Overlay analysis of Thermal load map and ranking map of SoVI produced the heat vulnerability map of the district. It was observed that 73% of urban areas falls under high vulnerable zone i.e. 1620671 residents are living in high heat vulnerable conditions.

Further Babarpur town was selected for neighbourhood analysis as the whole town attributed to high vulnerable characteristic. Six neighbourhoods were identified and analysed based on their plot size and found to have similar characteristic.

These selected three neighbourhoods were assessed based on physical character such as mass-void ratio, availability of per capita green. Further micro-climatic indicator such as Sky view in Urban, Roof radiation and Radiation of Urban canyon were simulated using Rhino software. A primary survey was also carried out to understand the perception of residents based on a set of question linked to heat resilience.

Results reveals that the neighbourhoods have inhabitable standards of physical character and consist very acute sky view percentage along with high roof and urban canyon radiation.



M.PLAN(URP)

Thesis by:  
Pasam Mounika Reddy

Guide by:  
Dr. Adinarayanane R  
Associate Professor  
Department of Planning, SPAV

# Urban Sprawl and its impacts on Land use/ Land Cover dynamics of Vijayawada, Andhra Pradesh.

## Abstract

Urban areas and cities are expanding and becoming more compact due to population growth and migration. Physical land use change has been observed today especially leading to loss of precious land. Urban sprawl consists of fragmented suburban communities and construction of commercial strips; typically defined by low-density, separate land uses, discontinuity, and vehicle supremacy, requiring excessive transport. The negative environmental, social and economic impacts of urban sprawl urge the land management community to find sustainable solutions for this phenomenon. Keeping the aforesaid knowledge in mind, Vijayawada city has been chosen for further detailed investigation. Multiple Linear Regression, System Dynamics, Cellular Automation and Artificial neural network (ANN) are employed as Top-down tools and as Bottom-up tools such as GIS for supervised classification and Normalized Difference Built-Up Index (NDBI) analysis have been carried out using GIS to understand the impact of sprawl on land cover and growth direction. Statistical tools like Pearson's chi-square test and Shannon's entropy applied in this study to understand the Urban Growth and its future tendency. Population sub-system model has been developed by employing System dynamics-Stella software and forecasted the demand and supply of infrastructure requirement. Using QGIS-MOLUSCE which works with Cellular Automation and ANN future growth direction and land cover have been forecasted for the projected year 2040. Based on the findings, the study concludes with comprehensive planning framework and evolve a set of planning guidelines to encounter adverse impacts of sprawl and navigating towards sustainable development of Vijayawada City.

## Research Framework

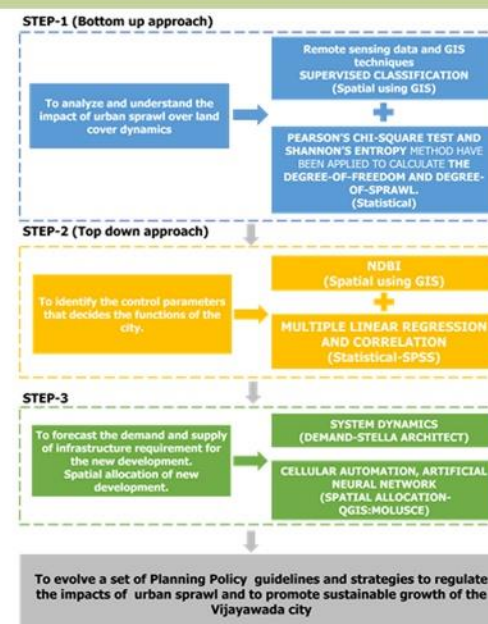


Fig. Integrated model for monitoring urban expansion

## Analysis and Proposal

### 1. Understood the impacts of Urban Sprawl over land cover dynamics

**Urban growth**  
Degree of freedom: It is increasing with the time. Higher overall freedom indicates lack of equal weightage and lack of consistency in planning with the entire city in consideration. Higher degree-of-freedom for a zone is an indication of unstable development within the zone with the change of time.  
Degree of Sprawl: It is increasing with the time. This shows the future tendency to sprawl.  
Degree goodness of urban growth: It is negative. It indicates the current study region is non-sustainable development.

### 2. Potential direction of the Urban sprawl of the study area

**NDBI analysis**  
The direction of growth is SW towards Amaravathi towards the new capital city of Andhra Pradesh and then SE. This is due to migration of secretariat employees to the new capital city and also due to the demand for the real estate because of the announcement of the new capital city Amaravathi. The reason for the expansion of the city is due to higher prices of land and housing in the city and also land use conversion policies evolved due to high demand of housing considering the population growth and land availability in the outskirts of the city limits.

Which lead to the expansion of city limits and increasing the public transportation facilities for the suburban dwellers for their daily commuting for various facilities and employment opportunities.

### 3. Control parameters that decides the functions of the study area

**Multiple Linear Regression and Correlation**  
The control parameters which decides the functions of the city w.r.t growth are Building permissions, school enrolments, Land price, Employment opportunities and Transportation in the decreasing order. Building permissions is the highly influencing parameter for the urban growth as this shows the demand for the housing as the population of the city grows. Land price is also the major influencing parameter as the demand for housing in the core area of the city increases the land price also drastically increases this is the reason for the most of the city dwellers to get settled in the suburban areas of the city considering the low land prices this in turn impacts the land use conversions from agriculture and barren land uses to residential, commercial and various infrastructure facilities. School enrolments shows the number of students enrolled into the school this is the direct influencing parameters as the sub urban and rural area students shifts or commute to the urban areas for better education system.

Employment opportunities and transportation have direct proportion relationship in an urbanizing city conditions as the employment opportunities increases the demand for transportation also increases.

### 4. System Dynamics

Population sub-system model has been developed by employing System Dynamics-Stella software to forecast population for the projected year, 2041 and the same has been validated. Based on the projected population and URDPFI guidelines, the Physical and Social Infrastructure have been quantified and in turn, demand and supply gap identified for the projected year.

### 5. QGIS-MOLUSCE

This analysis shows that the conversions of agriculture and barren lands to Residential and built has drastically increased in the year 2015 which is during the announcement of new capital city Amaravathi. This analysis also shows that the larger areas of agriculture lands in rural areas are being converted to urban land which is not sustainable for the city development. This also gives the tendency of further conversions of land use from rural agriculture to urban lands in the future. To develop comprehensive planning framework and evolve a set of Recommendations for sustainable development of Vijayawada. Spatial land cover model for year 2041 is predicted using QGIS-MOLUSCE with the help of cellular automation and artificial neural network.

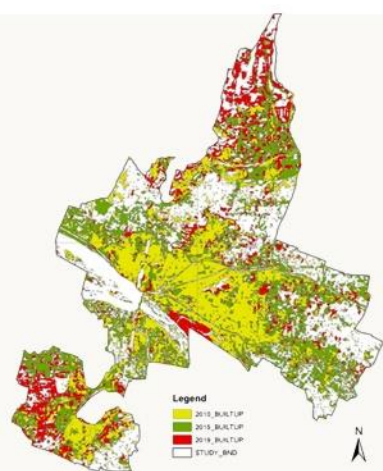


Fig. Temporal Urban Growth of Study region

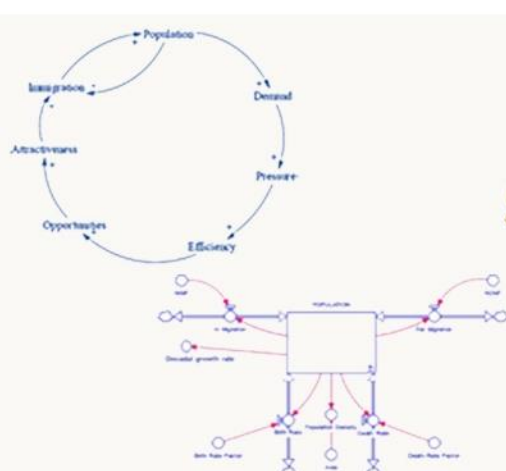


Fig. Casual loop and Stock diagram for Population Projection

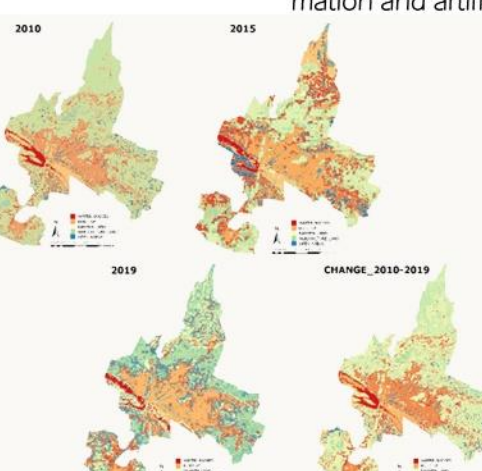


Fig. Land cover change detection

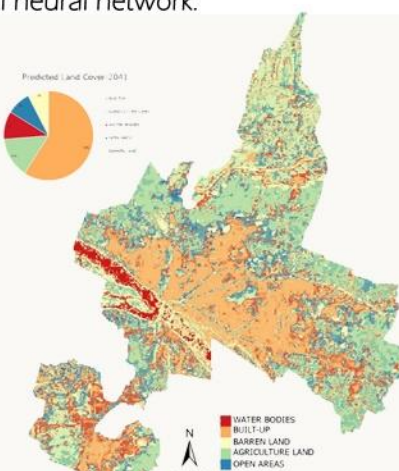


Fig. Land cover Model for 2041

## Outcome

The conclusion is that only by means of a planning policy scheme to support sustainable development could Vijayawada meet the environmental, social and economic requirements of sustainable land use / land cover and achieve a perfect balance among them. This can also be done by extending the VMC boundary or by making Vijayawada as Metropolitan city. The modelling results are directly useful to planners and policy makers by comparing different dynamic consequences brought by various policies and decisions. It is useful in answering questions such as "What if" and is of significance to achieve the goal of sustainable land use / land cover. Further research can be done in detail to understand the possible combination of tools to study the urban growth dynamics.

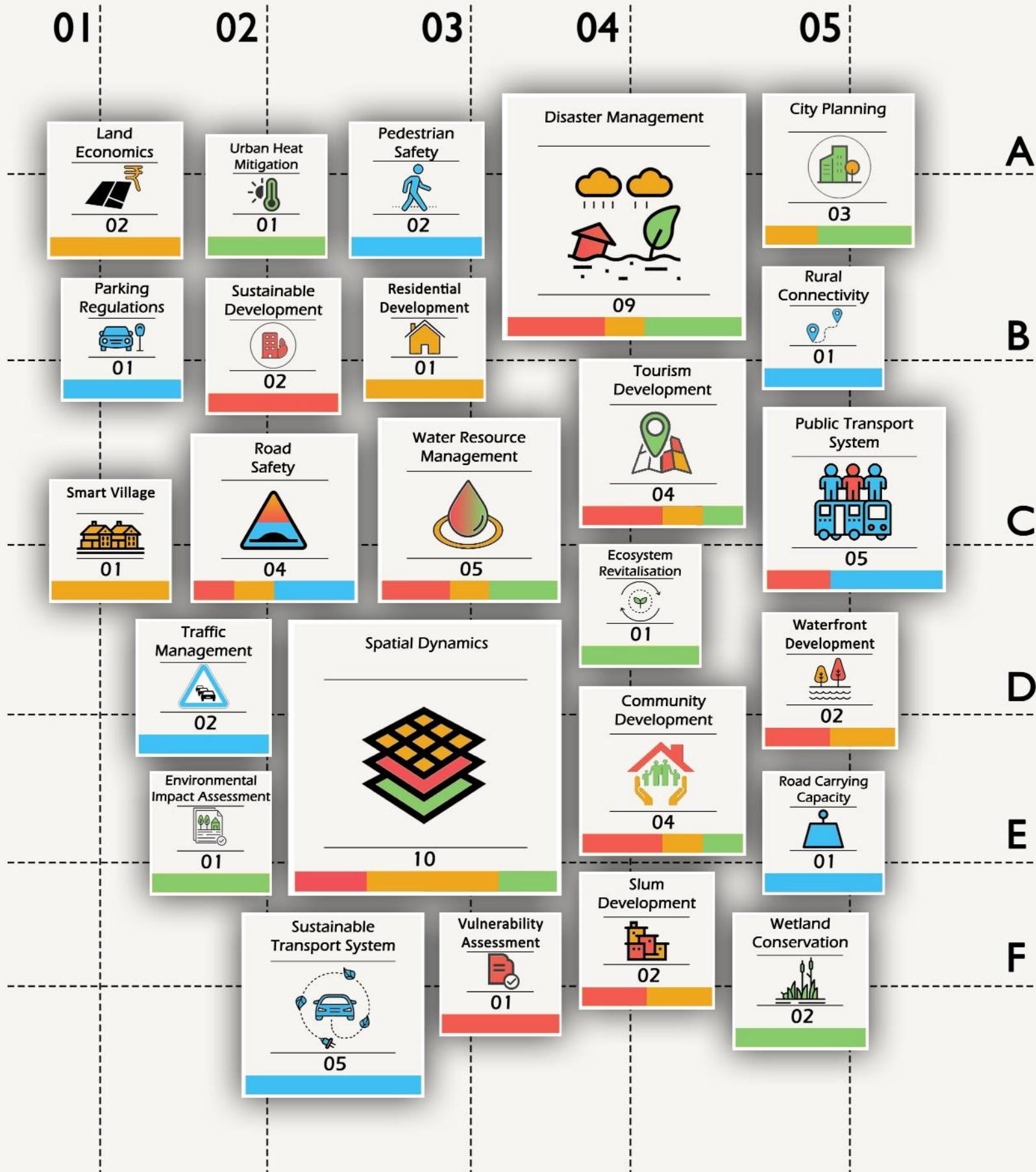


# Diversity of Thesis Topics

Department of Planning (2020 - 2021)

Thesis Projects	<b>72</b>	UG Courses		PG Courses	
	Total	<b>21</b>	<b>17</b>	<b>17</b>	<b>17</b>
Thesis Coordinators		B.Plan	MURP	MEPM	MTIP

The following infographic illustrates the diversity of thesis topics selected by the bachelor's and master's of Planning Department, School of Planning and Architecture, Vijayawada, During the academic year 2020 - 2021



## How to read the Infographic ?

**Travel Behaviour** → Thesis Topic

→ An icon best describing the thesis topic

→ The colour of the icon is associated with the class which has worked the most on this thesis topic

→ Total number of thesis presented on this topic

→ Width of the colour indicating the number of thesis presented by a particular class about this topic

1. Bigger the boxes, more is the number of thesis presented in that particular topic.
2. Use the grids to navigate through the composition.
3. If the icon has a colour gradient, it means that two or more classes have equal number of thesis presented in that particular topic.
4. Each colour represents a class (refer to the legend in the top right corner of the sheet).

\* Kindly visit the SPAV website to access the detailed list of thesis topics undertaken by the bachelor's (B.Plan) and master's (M.Plan; M.URP, M.EPM, M.TIP) students of Planning in 2021.

## Faculty Achievements & Publications

• Dr Abdul Razak Mohamed (2021) One of the Editors, Proceeding of the RLCP 2021 released during the Inauguration of the International Conference (ONLINE) RLCP21 organized by dept of planning School of Planning and Architecture Vijayawada during Jan 2021

• Prasthiksha, B, Mohamed Abdul Razak (2021) Co Author the paper "Conservation of Wetland is Essential for Ecotourism Development - Experience From Deepor Beel Lake, Guwahati, India-", paper presented during the International Conference ((ONLINE) RLCP21 organized by dept of planning School of Planning and Architecture Vijayawada during Feb 2021.

• Eda Reddy D.N & Mohamed Abdul Razak (2021) Co Author of the paper "Strategies for Drinking Water Resource Management in Araku Valley Tribal Villages, Andhra Pradesh India, paper presented during the International Conference ((ONLINE) RLCP21 organized by dept of planning School of Planning and Architecture Vijayawada during Feb 2021.

• Rajan P, Jain M, Mohamed, Abdul Razak (2021) Co Author of the paper "Selection of Native Evergreen Trees for Enhancement of Outdoor Human Thermal Comfort in Urban Parks: A Case of Panagal Park, Chennai, India" Theme: Ecology and Society, paper presented during the International Conference ((ONLINE) RLCP21 organized by Dept of planning School of Planning and Architecture Vijayawada during Feb 2021.

• Rajan P, Jain, M, Mohamed, Abdul Razak. (2021). "Ecosystem Services of Indian Bael tree a "Sthalavriksha" of Tamil Nadu, India". TURKISH ONLINE JOURNAL OF QUALITATIVE INQUIRY, E-ISSN: 1309-6591. Volume 12 Issue 3 July 2021.

• Rajan, P, Jain, Minakshi, Mohamed, Abdul Razak. (2021). "Assessment of Carbon Storage and Sequestration Potential of Heritage Trees in Chennai City, India". ANNALS OF THE ROMANIAN SOCIETY FOR CELL BIOLOGY, 25(6), 4786-4796. [SCOPUS Indexed]. <https://www.annalsofrscb.ro/index.php/journal/article/view/6336>

• Mohamed Abdul Razak (2021) published "Connectivity of Roads is the measure of spatial access to infrastructure facilities in city peripheral areas – case of Chennai India. International Workshop on "Revisioning Peripheral Geographies: Strategies for resilient urban Development in the Global South". Workshop on India Scheduled 25th Feb 2021, the Extended Abstract- International workshop Feb –April 2021 Royal Academy of Engineering, University of Reading, and Hindustan University, Chennai.

• Dr Abdul Razak Mohamed (2021) Extended Abstract published on book "Planning Jakarta in the Post Suburban Era" edited by Deden Rukmana – deden.rukmana@aamu.edu and Sonia Roitman – s.roitman@uq.edu.au during February 15.

• Dr Abdul Razak Mohamed (2021) Invited article published entitled "Government Readies Blueprint to develop Suburban in to Smart Cities reported by Mr. Samdani, Times of India Daily News Paper, Edition-Vijayawada-03-03-2021

• Dr Abdul Razak Mohamed (2021) Invited article published entitled "State Needs Comprehensive Development Plans for Coasts" reported by Mr. Siva, Times of India Daily News paper, Edition- Vijayawada-28-2-2021

• Tewari Kshitij and Mohamed, Abdul Razak (2021) Co Author of the Paper "PERCEPTION OF PARENTS OF LUCKNOW CITY ABOUT THE CHALLENGES POSED BY ONLINE MODE OF EDUCATION FOR SECONDARY AND SENIOR SECONDARY STUDENTS, WORLD CHILDREN CONFERENCE-II May 21-23, 2021 Nicosia / Turkish Republic of Northern Cyprus Özyay Günsel Children University, Published in the Proceedings Book Volume II IKSAD GLOBAL PUBLISHING HOUSE ISBN: 978-605-70554-8-4 [www.worldchildren-conference.orgg](http://www.worldchildren-conference.orgg)

• Dr Abdul Razak Mohamed (2021) Special Lecture (online) on –"Urban and Regional Planning Challenges and participation of local Community" as a part of the Subject Socio-Economic Basis for Planning, for the Masters in Urban and Regional Planning 2nd semester, Xavier's University, Bhubaneswar, 10 January.

• Dr Abdul Razak Mohamed (2021) Co Chair - Session on Ecology and Society, RLCP2021, International Conference ((ONLINE) RLCP21 organized by Dept. of planning School of Planning and Architecture Vijayawada during 10 Jan 2021

• Dr Abdul Razak Mohamed (2021), Organizing Secretary RLCP 21, 10 to 13 Feb 2021, Speech delivered during the Inaugural Address and Vote of Thanks speech (Online). International Conference ((ONLINE) RLCP21 organized by dept of planning School of Planning and Architecture Vijayawada during 10 Jan 2021

• Mohamed Abdul Razak (2021) Invited Expert Talk attended the Brainstorming meeting "Way Forward Towards Development of Andhra Pradesh" meeting organized by the Directorate of Town and Country Planning at Andhra Pradesh Secretariat with Ministry of Urban Development Secretary, held on Dt.11.01.2021

• Dr. Abdul Razak Mohamed (2021) Spe

cial Lecture (online) on – "Social Factors Influence Spatial Planning" as a part of the Subject Socio-Economic Basis for Planning, for the Masters in Urban and Regional Planning 2nd semester, Xavier's University, Bhubaneswar, March 2

• Dr Abdul Razak Mohamed (2021) Invited talk during the webinar (online) on the "Sustainability Initiative-Integration and Localization of SDGs in Special reference to Goal 11 Sustainable Cities and Communities – Case study on the Participatory model of Redevelopment of T. Nagar Chennai. Organized by Amity Institute of Liberal Arts, AMITY University, Lucknow Campus. 21 February (Sunday 2.15 to 4.00pm)

• Dr. Abdul Razak Mohamed (2021) 14-02-2021 Webinar attended on "PM program on National Research Foundation allocation during the Budget 2021" Govt. of India on 14th February

• Dr. Abdul Razak Mohamed (2021) Delivered Key Note address "INTEGRATED COASTAL REGION DEVELOPMENT IN ANDHRA PRADESH: PROBLEMS AND PROSPECTS during the Institute of Town Planners India 69 National Town and Country Planning (online). During the Technical Session -IV on "Integrated Coastal Regional Development Plan" scheduled 26-28 Feb 2021 at Vaizahapatnam. AP.

• Dr Abdul Razak Mohamed (2021), Invited Special Lecture (online) delivered on the topic "Research in Spatial Planning is a Way of Thinking" for the Faculty and Students and Planning' organized by the Dept of Urban Planning, School of Planning and Architecture, Delhi 17 February.

• Dr Abdul Razak Mohamed (2021) Attended Online "South Zone VCs Conference" organized by Association of Indian Universities, hosted by GITAM University, on the subject "Governance and Finance aspects of Higher education Institutions". 24-25 February.

• Dr Abdul Razak Mohamed (2021) attended webinar on "World Development Report Date for better Lives" - Live Virtual event March 24, organized by World Bank Group 1818 H Street Washington DC 20433

• Dr Abdul Razak Mohamed (2021) Attended Webinar on "Planning Pandemic Resilient Cities for India: The Road Ahead" on 8th January 2020 1400 hrs to 1615 hrs (IST). organized by Centre for Urban Governance (CUG), Atal Bihari Vajpayee Institute of Good Governance and Policy Analysis (AIGGPA), Bhopal,

• Dr Abdul Razak Mohamed (2021) Resource person talk (online) on "Placed

## Faculty Achievements & Publications

Based Community Management”, part of Faculty Development Program on “Revitalizing Urbanism and Resilient Architecture” between 22 to 25 March 2021, organized by the Dean School of Planning Arch and design, Hindustan Institute of Technology and Science, Chennai in association with Council of Architecture, New Delhi 22-3-21 Monday 3.15 to 4.15pm

•Tewari Kshitij and Mohamed, Abdul Razak (2021) Co Author of the paper “People's Perception about Weather Changes In Lucknow and How their Knowledge of Global Concerns such as Climate Change affect the Choices of a Sustainable Lifestyle”, Paper presented during the International Conference on Infrastructure Development (ICID) –Theory Practice and Policy Organised by ADANI Institute of Infrastructure Ahmedabad India during April 29-30,2021, Received Consolation Prize for the best paper in the session. “Social Infrastructure and Sustainability”.

•Tiware Kshitij & Mohamed Abdul Razak (2021) As Co Author of the Paper “The Challenges Towards Home Learning and Online Mode of Teaching Environment of the Students of Secondary and Higher Secondary Class from a Few Selected Middle Income Neighbourhoods in Lucknow City, India from the Parents Perspective.\*Paper presented during The 2nd International Children's Congress of the World held between 21-23 May 2021 in the Turkish Republic of Northern Cyprus, hosted by Özyay - Günsel Children's University and Near East University.

•Dr Abdul Razak Mohamed (2021) “Inclusive and Participatory Planning of Public Space of Streets in Market towards Up-gradation - A Practical Experience from Redevelopment of T. Nagar Chennai, India” Abstract Accepted for presentation- Track 1: Inclusiveness and empowerment. Al-Majlis: Planning with and for Communities during 57th ISOCARP World Planning Congress Sat, May 29, 2021. Conference on “Planning Unlocked New Times Better Places Stronger Communities” scheduled at Doha Qatar 8-11 2021.

•Dr Abdul Razak Mohamed (2021) Invited Speech (online) on “RESHAPING HOUSE AND NEIGHBOURHOODS FOR SUSTAINABLE LIVING –POST PANDAMIC CHALLENGES FOR CITY PLANNING” Online Teacher's Training Program organized by Council of Architecture, Training and Research Centre, Bhopal - in association with BMS School of Architecture, Yelahanka (Bangalore) on the theme Pandemic and Future Cities. Presentation on 28-07-2021, Day 3 Session on Pandemic and Post Pandemic Challenges

•Dr. Abdul Razak Mohamed (2021) as Editorial Manager Journal of “Architecture and Culture, Online submission and Peer Review Tracking System, <https://www.editorialmanager.com/archcult/login.asp?a=r>). Architecture and Culture, em archcult 0 734bb1 795d98c3 - Editorial Manager Registration, em@editorialmanager.com - May 15, 2021 12:37 AM

•Dr Abdul Razak Mohamed (2021) Special Lecture on (online) “Participatory Planning in India Cases form Urban and Regional Planning” for the students of . M.Plan Urban Planning at the School of Planning and Architecture, Delhi on 28 April 2021

•Dr Abdul Razak Mohamed (2021) Organized World Environment Day 2021, (online) conference and also the Moderator of the webinar, on the theme “Urban Spaces Future Prospects” on 05-06-2021.

•Dr Abdul Razak Mohamed (2021) Organized Special Lecture (online) on Urban Governance for the M.Plan Students by the invited Expert Dr Prof. Tatagata Professor Xaviour University Bhubaneswar on 05-06-2021.

•Dr Abdul Razak Mohamed (2021) Organized Special Lecture (online) on Academic Writings Challenges of the B.Plan and M.Plan students by the Expert Dr Prof Prema Rajagopalan Dept of Humanities and Social Sciences , Indian Institute of Madras, Chennai. on 05-06-2021

•Dr Abdul Razak Mohamed (2021) Instrumental for signing the Memorandum of Understanding (MoU) between Greater Paris Investment Agency (GPIA) and School of Planning and Architecture Vijayawada (28-7-2021).

•Dr Abdul Razak Mohamed (2021) Jury Examiner (online), M.Plan Dissertation IIIrd Semester Masters in Urban and Regional Planning Students, Hindustan University Chennai. 9 January.

•Dr Abdul Razak Mohamed (2021), Ph.D Thesis External Evaluator, (email from Assistant registrar- Academic) of the Ph.D Scholar, Ms. Solanki Ghosh, the thesis work entitled “Effect of Urban Form & Image on Walkability – A Case of Kolkata, India” - the Centre for Urban Science & Engineering, Indian Institute of Technology, Bombay Jan. 2021.

•Dr Abdul Razak Mohamed (2021) JLL India appointed me as “Social Expert” for Consulting Services to Assess the Feasibility and Assist in the Preparation of Energy Efficient Affordable Housing Projects in Tamil Nadu. Letter received from Mr. Simon Selvaraj MRICS, Senior Director – Strategic Consulting, Head –Government and Infrastructure Solutions, India JLL

Chennai Office, June 23 Social Expert Consultancy Service.

•Dr Abdul Razak Mohamed (2021) Article Review – “How do Local Governments in East Indonesia Facilitate the Implementation of Paradiplomacy?”, Research Network-Interdisciplinary Sciences, Common Ground Journal Publishing Team, Common Ground Research Networks, University of Illinois Research Park, 2001 South First Street, Suite 202, Champaign, IL 61820 USA, Ph: +1-217-328-0405, [https://cg-scholar.com/cg\\_support](https://cg-scholar.com/cg_support). July 17, Reviewer Article no 76494. [corrin@cgnetworks.org](mailto:corrin@cgnetworks.org)

•Dr Abdul Razak Mohamed (2021) External Examiner for the End Semester Viva Voice of M. Planning Thesis Phase - II for M. Plan Program (Final Year) on 6th June, 2021 (Sunday) via online, School of Planning, Architecture and Design Excellence, Hindustan Institute of Technology and Science, Chennai

•Dr. Ayon Kumar Tarafdar Organized and moderated the “Panel Discussion on Dynamics and Evolution of City Planning in India” held on 01 March, 2021 where panelists were Prof. Dr. S. Vidyarthi (University of Illinois, Chicago); Prof. Dr. Ashok Kumar (SPA Delhi) and Prof. Dr. Poonam Prakash, (SPA Delhi) at SPA Vijayawada campus, which was attended by 98 participants.

•Dr. Adinarayanane R Participated in AICTE Training and Learning Program (ATAL) Academy One Week Online, Faculty Development Programme on “Energy and Water Efficiency in Built Environment”, during June 28-July 02 2021, organized by School of Architecture and Planning, Vijayawada, Andhra Pradesh.

•Adinarayanane Ramamurthy, Anusha Roy and Faiz Ahmed Chundeli, “Green and Blue Infrastructure (GBI) for Climate Responsive Planning- A Case of Navi Mumbai City, India”- Technical paper presented/published: The 11th International Conference of the International Society for the INTEGRATED DISASTER RISK MANAGEMENT, during 22-24 September 2021 (Virtual mode), oorganized by Disaster Prevention Research Institute and Kyoto University, Kyoto, JAPAN.

•Adinarayanane Ramamurthy, Prashant Vardhan & Faiz Ahmed Chundeli (2021), “Regional Development and Planning for Sustainable Development: A Case of Puducherry Planning Region, India” book chapter accepted for publication in Social Morphology, Human Welfare & Sustainability, Springer Nature, Switzerland, which is indexed in Web of Science/ Scopus.

•Lata K., Saha S.K., Adinarayanane Ramamurthy, Chundeli F.A. (2021), “Smart Global Megacity: Chennai Sustainable Development Framework”. In: Vinod Kumar T.

## Faculty Achievements & Publications

(eds) Smart Global Megacities. Advances in 21st Century Human Settlements. Springer, Singapore. [https://doi.org/10.1007/978-981-16-2023-2\\_4](https://doi.org/10.1007/978-981-16-2023-2_4), published in June 2021, which is indexed in Web of Science/ Scopus

- Adinarayanane Ramamurthy, Prashant Vardhan & Faiz Ahmed Chundeli (2021), "Simplified methodology for district-scale urban energy quantification and roof-top solar photovoltaic potential: A case study of Chennai, India", book chapter accepted for publication in Urban Energy Systems - A modeling and Simulation Perspective by Wiley-Scrivener imprint, USA, which is indexed in Web of Science/ Scopus.

- Faiz Ahmed Ahmed Chundeli, Minakshi Jain, Adinarayanane Ramamurthy and Inderpal Singh (2021), "Cultural Heritage Conservation Practices amongst the Indigenous Communities of Kullu Region, Himachal Pradesh, India", technical paper under review for Land-use Policy, ISSN: 0264-8377, The International Journal Covering all aspects of Land Use, ELSEVIER Publication.

- Faiz Ahmed Chundeli, Adinarayanane Ramamurthy and Minakshi Jain (2021), "Population Density and COVID Spatial Dynamics: A Critical Assessment of Indian Districts", technical paper accepted for publication in Indian Journal of Public Administration | SAGE Publications Inc .UK., which is indexed in Web of Science/ Scopus.

- Anusha Roy, Adinarayanane Ramamurthy and Faiz Ahmed Chundeli, (2021) "Green and Blue Infrastructure (GBI) for Climate Responsive Planning- A Case of Navi Mumbai City, India", technical paper under review for Land-use Policy, ISSN: 0264-8377, The International Journal Covering all aspects of Land Use, ELSEVIER Publication.

- Tania Berger, Faiz Ahmed Chundeli, Rama Umesh Pandey, Minakshi Jain, Ayon Kumar Tarfdar, Adinarayanane Ramamurthy (2021), "Low-income residents' strategies to cope with urban heat - Findings from India and Austria", technical paper under review for Land-use Policy, ISSN: 0264-8377, The International Journal Covering all aspects of Land Use, ELSEVIER Publication.

- Tanushree Biswas and Adinarayanane Ramamurthy, "Three-Dimensional Rule-Based City Modelling to Regulate the Spatial Dynamics: A Case of Bhubaneswar City, India"- Technical paper presented/published in the RLCP 2020: International Conference during February 10-13, 2021, Organized by Department of Planning, School of Planning and Architecture Vijayawada, Andhra Pradesh, India.

- Faiz Ahmed Chundeli, and Adinarayanane Ramamurthy, and Minakshi Jain "Scientific Assessment of Blue and Green Mitigating UHI at Embryonic Stages of Planning and Design - Amaravati, Andhra Pradesh, India"- Technical paper presented/published in the RLCP 2020: International Conference on Resilient and Liveable City Planning during February 10-13, 2021, Organized by Department of Planning, School of Planning and Architecture Vijayawada, Andhra Pradesh, India.

- Pasam Mounika Reddy and Adinarayanane Ramamurthy, "Monitoring Urban Expansion and Its Effects on Land Use and Land Cover Changes in Vijayawada City, Andhra Pradesh, India"- Technical paper presented/published in the RLCP 2020: International Conference on Resilient and Liveable City Planning during February 10-13, 2021, Organized by Department of Planning, School of Planning and Architecture Vijayawada, Andhra Pradesh, India

- A half a day Workshop on the topic "Planning for a Sustainable Environment for Vijayawada City, Andhra Pradesh", held on 29/05/2021, at School of Planning and Architecture Vijayawada, Andhra Pradesh, under the collaboration of experts from UNHABIAT team, organized by Dr. Adinarayanane R and Rajeev R.

- Jain M, Adinarayanane R, Tarafdar A, Vardhan P, Kumar A., Verma P. (2020): 'Gram Panchayat Spatial Development Plan 2041 for Paritala GP and Telaprolu GP, Krishna District'. A report prepared for the Ministry of Panchayati Raj, Government of India by the School of Planning and Architecture Vijayawada.

- Valliappan AL, was a Member of Technical committee and Technical Session Co-ordinator for the theme Sustainable Urban Systems in the RLCP conference 2020 held on February 11-13, 2021 conducted by Department of Planning.

- Valliappan AL, Attended a webinar on Demystifying Parking Management in India on 29th June 2021 conducted by CEPT Research and Development Foundation(CRDF).

- Valliappan AL, attended an online workshop on Business Excel conducted from 25 June 2021 to 27 June 2021 by Global Institute of Statistical Solutions.

- Valliappan AL, attended a webinar on Bus Maintenance and Asset Management on 29th July 2021 conducted by CEPT Research and Development Foundation(CRDF).

- Valliappan AL, attended ATAL Faculty Development Programme on Introduc

tion to Geospatial tools and technology from July 26-30 by Department of Planning, Indian Institute of Technology(IIT), Roorkee.

- Valliappan AL, attended STAMP Pune launch navigating mobility 2.0 in Pune on 15th July 2021 conducted by WRI, India ROSS center.

- Valliappan AL, attended Special lecture on economic aspects of Public Transport on 25th May 2021 conducted by Department of Planning, SPA, Vijayawada

- Valliappan AL, attended Special lecture on Institutional Frameworks in Transport sector in India. An overview by Prof. Sanjay Gupta on 31st May 2021 conducted by Department of Planning, SPA, Vijayawada

- Valliappan AL, attended Special lecture on Planning for Safer NMT Infrastructure by Prof. Geetam Tiwari on 17th May 2021 conducted by Department of Planning, SPA, Vijayawada

- Valliappan AL, attended Special lecture on Legal Connotation of Professional Practice of Environment Planning in India by Advocate Ragini Gupta on June 11, 2021 conducted by Department of Planning, SPA, Vijayawada.

- Prasanth Vardhan, presented a paper on Potentials of Public Leasehold Systems for Urban Infrastructure Investments In GMC. International Conference on Resilient & Liveable City Planning (RLCP 2020), Transforming Urban Systems. SPA Vijayawada

- Prasanth Vardhan, was an Organising Committee Member of International Conference on Resilient & Liveable City Planning, RLCP 2020 – SPAV, January 2020.

- Prasanth Vardhan, attended a certificate Faculty Development Program on Data Analytics from 05-07-2021 to 09-07-2021 at CEE, AICTE ATAL Academy (Online)

- Prasanth Vardhan P., Dr. Abdul Razak Mohamed, Dr. Ayon Kumar Tarafdar (2021). Exploring Potentials of Public Land Based Revenues to Finance City Infrastructure ? An Assessment Using Linear Programming Model for Guntur Municipal Corporation. International Journal of Built Environment and Sustainability, 8(1), 1-13. (EISSN 2289-8948).

- Prasanth Vardhan P and Ayon Kumar T. (2021). Potentials of Public Leasehold Systems for Urban Infrastructure Investments In GMC. International Conference on Resilient & Liveable City Planning (RLCP 2020), Transforming Urban Systems. SPA Vijayawada, 140-144. (ISBN: 978-93-90211-61-6)

- Vasavi Yarram and Prasanth Vardhan (2021). Operationalization of Electric Vehicle Charging Stations in Urban Areas - A Case of Hyderabad. International Conference on Resilient & Liveable City Planning (RLCP 2020), Transforming Urban Systems. SPA Vijayawada, 302-307. (ISBN: 978-93-90211-61-6)

**SPATIAL APPROACH TOWARDS UNDERSTANDING SOCIALIZATION CONCOMITANT WITH CHANGE IN SOCIAL RELATIONS AND MOBILITY**

- Dr Abdul Razak Mohamed, Professor and Head Department of Planning, SPAV

**MOU BETWEEN GPIA AND SPAV**

**Memorandum of understanding**

**Dr Abdul Razak Mohamed, Prof and Head Dept of Planning SPAV.**

I am happy to state that with the support for Prof Dr Minakshi Jain, the Director School of Planning and Architecture Vijayawada, I am able execute towards signing the Memorandum of Understanding (MoU) between Greater Paris Investment Agency (GPIA) and School of Planning and Architecture Vijayawada (SPAV) during 28-7-2021.

It is appropriate to state that this could happen because of one of the B.Plan student of SPAV Mr. Ravi Kiran Jammaladaka (working as Intern with GPIA) whose constant interaction with me and build dialogue (online) with the Managing Director Mr. Christophe Scheidhauer.

Established 25 years ago by the Paris Chamber of Commerce and Industry, Greater Paris Investment Agency (GPIA) brings together major groups, professional federations and public bodies involved in the Grand Paris project. GPIA actions aim at promoting the skills and know-how of companies operating in the Greater Paris area.

Mobility operators, energy suppliers, construction firms, real estate companies, banks, consulting firms, digital service suppliers, etc.: Grand Paris Makers® mobilize their talents to develop France Capital region as one of the most competitive, sustainable and attractive Global Cities in the world. Greater Paris Investment Agency is dedicated to boosting Greater Paris' attractiveness worldwide.

Together, the Parties enter into this Memorandum of Understanding:

- To work together and exchange knowledge between the SPAV and GPIA in terms of metropolitan affairs in both France and India.
- To work with the professors in publishing an article about the "Attractiveness of public transport and public spaces in Indian cities and how pandemic affected it?" for 'Les Cahiers de l'attractivité' magazine published by GPIA.
- To invite professors to participate in international conferences host jointly by GPIA and SPAV in the future for exchange of knowledge related to the topics of expertise.
- Considering the mutual interest in sharing best practices, experiences and experimentation on urban development after the COVID19 pandemic towards sustainable development.

Understanding the reasons towards socialization concomitant with change in social relations and mobility in a spatial approach is very important since the individual, family, community and people at global territories facing a critical stage to coexist between normal and abnormal living environment. House based living, studying, working, worship, entertaining and socializing is not possible for everyone in urban and rural way of life due to the present living environment demands each individuals, families and communities towards socialization concomitant. Socialization concomitant is understood as shifting living activities from the normal situation to make efforts to adjust change or adopt possible activities when the situation demands by forces to act upon.

Concomitant is the fact of existing or occurring together with something else. The doctrine of life and that the individual social and physical environmental accompaniment especially: a conjunction that is regular and is marked by correlative variation of accompanying elements such as social and physical living territory and proximity. To exist together or at the same time to exist separately or independently but peaceably, often while remaining rivals or adversaries. Although their doctrine and practice differ greatly, the two great powers such as social and physical environment of living must coexist. The coexist means to live with or close to another usually in peace. Members of a family living together is an example of coexist. Two plants growing in the same container is an example of to coexist. To live in peace with another or others despite differences, it is especially as a matter of opportunity to practice and adjustment in practice.

However, given the socio-physical dynamics that often coexist with depression, antidepressants are usually insufficient as the only way to exists.

The rupture of the concordat at once terminates the obligations which resulted from it on both sides; but it does not break off all relation between the people, since the people continue to coexist on the same territory/neighbourhood.

Usually the new system must coexist with some older system. People might consider that matter and another can coexist in the same space; this would involve the co-existence and interaction of a double set of properties or play dual role, introducing great complication, which would place any coherent scheme of physical action probably beyond the powers of human analysis.

The emerging as well as experiencing situation more in cities across the world: concomitant social relations and mobility states urban living has close proximity in neighbourhood space.

It may be evenly dispersed distribution across the neighbourhoods with limiting relations and mobility over a short period of time, but at the same time the essential relations and required mobility needs careful physical planning to meet with the socialization concomitant as social values of urban community.

Such an understanding is a prerequisite for the sustainable planning required to counteract the perceived negative social, economic, and environmental impacts of socialization concomitant.

**THE MIRAGE**

- Animesh Dash (MTIP, 1st year)

You came like the relieving rains,  
After the harsh sunny days.  
Filled the drought-hit lands with your magical downpour,  
Penetrating deep into the earth core.

Breathtaking was your fragrance,  
Pushing the heartbeats to the vegenance  
Engulfed in you, the time rolled by,  
Words can't explain it, ohh my my!!!

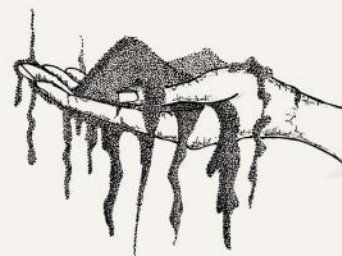
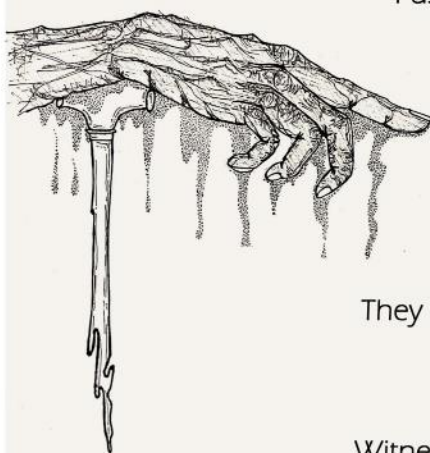
Being you around,  
the lands became lush green again,  
Thanking God for sending you,  
the way you came...!!!

They say, good things are followed by sorrows  
Little did the lands knew u  
would vanish like the Pharaohs.

Witnessing you was their greatest achievement.  
It was the result for their hearty commitment.  
Soon you left, leaving back the dangerous Sun to barrage,  
Realising that you were nothing more than the confusing mirage...!!!

Whatever it was, you gave the lands a reason to fight,  
To get what they deserve, what they can call their right.

Enthusiastic eyes keep searching for you to come back yet again,  
And this time stay till eternity, till you choose to abstain...!!!



**FORESEE THE NEW NORMAL**

- Haripriya Kesavan (B.Plan, 2nd year)

The new pandemic due to COVID-19 measured out to be the biggest public health crisis and has heretofore posed complications upon the planning community. Urban planning has risen to eradicate or cope with global predicaments which corresponds to essentially the development of sustainably adaptive cities to the people living within.

The pandemic has given us time to reflect upon how are we going to face existential crisis as the aftermath of uncontrolled urbanism or emerge with different set of priorities into responding to this situation, how do we further work with informal settlements in the cities into providing the services they need, are we going for short term solution or leave long term impacts, finally do we find other ways to work and engage with minimal mobility?

However conventional characteristics of people and the way cities work has changed indefinitely, with this public realm on streets, roads, squares and plazas is the common ground connecting both cities and its citizens. With practices of social distancing, public spaces are to be reinforced with new sets of policies promoting such practices, thus creation of such meaningful public spaces must be the centre of planning. In conclusion, new sets of development plans are a necessitate which would lift the challenges provoked to services delivery and mobility. Thereby, rebuilding community-based viable cities that resilient to future threats and are both sustainable and liveable cities.

**URBAN OPEN SPACES IN POST PANDEMIC ERA**

- Kalyani Vinod (B.Plan, 3rd year)

A healthy city continually improves physical and social environments and expands community resources so that, it can enable people to mutually support each other in performing all the functions of life. Open spaces are never prioritised in this concrete urban sprawl, and they are frequently overlooked in favour of other goals. Walking, being one of the most preferred exercise, has allowed people to break free from their daily rush by exposing them to fresh air and sunlight. The Covid-19 pandemic has taken a heavy toll on everybody's daily routines and lifestyles. People, gradually, have go back to the pre-pandemic lifestyle. In such a crisis, how relevant will the urban open spaces be, in this process? Depression and anxiety, along with the demand to cope with a virtual living are the prominent backlashes of lockdown. Spending time in nature can help people cope with the negative physical and psychological health effects. The provision of such areas on a local level can help promote the concept of a "healthy city" and encourage people to recognise that coexistence and socialisation, when done responsibly, can help alleviate tension and stress. They can also create healthy recreational spaces that can cater to the leisure requirements of the city. Pedestrianisation of streets, making them more suitable for NMT modes of transport and introducing design guidelines for resilient open spaces can be some of the measures to be adopted in this journey. The pandemic has highlighted the crucial role, these spaces play in our health and habitat.

**RETHINKING THE URBAN STRATEGIES**

- Vanya Mathur (MURP, 1st year)

Globally, the Pandemic has hit the life of people, targeting how cities functioned & making the economy suffer drastically. With social distancing becoming the new normal, arises the bitter reality about public spaces, public transport all being discarded by the citizens. Looking at the situation keenly, we can say its all upside down but at the same time an opportunity to start afresh. It's the prime responsibility of urban planners to make cities a safe and healthy place to live. Since pandemic is not going anywhere soon and humans can't stop rolling their normal life its now come down to living safely with it. Congestion due to migration has always been a major issue. The load on infrastructure keeps on waxing & waning leading to degradation of standard of life in cities. This global issue of covid 19 along with existing issue of migration is giving us the warning to plan decentralization of infrastructure, housing and other facilities. Compact development along with resilient planning could be a way out as it would reduce people's movement. Self-Sufficient rural areas should be developed. Informal sector should be encouraged and the schemes such as Pradhan Mantri Street Vendors Atmanirbar Nidhi (PM SVANidhi) should be made popular among the less aware people so that they can take benefit of this. Just like pandemic follows no status similarly our solutions should be for each strata of our society. The earth is self-cleaning itself & we as humans should work in line with it.

**STUDENT ILLUSTRATIONS**

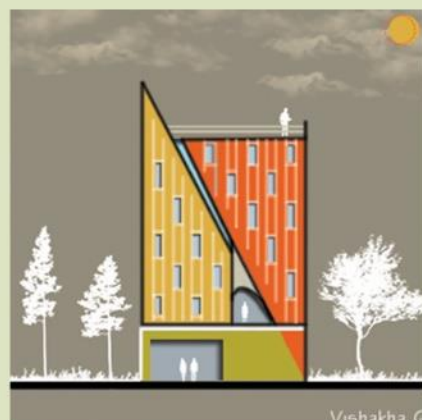
**Concomitance**

Existing and growing together



**Elegant Walker**

Life is more interesting when you get a taste of both outdoors and indoors

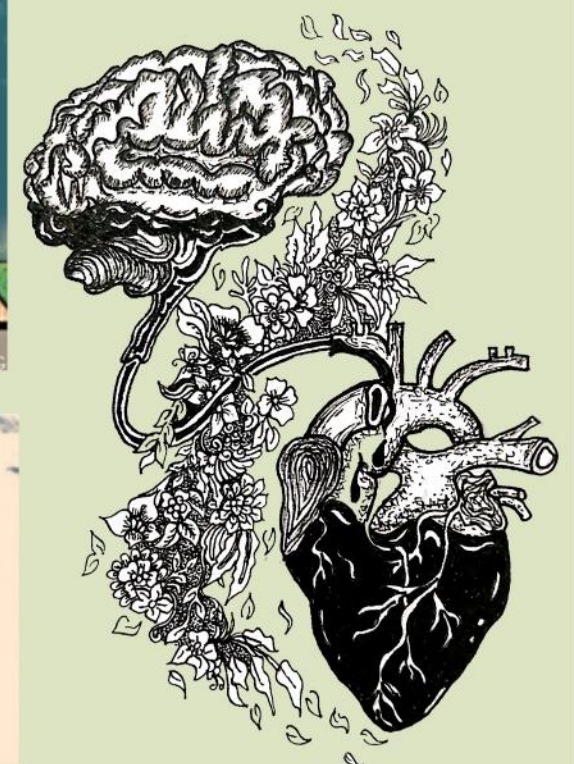


**When art and space go hand in hand**



Mastering others is strength, Mastering yourself is true power!

- Lao Tzu



Illustrations By: Vishakha Gondhali (MURP, 1st year)

**AUROVILLE - NO - DISCRIMINATION MATTER**  
- Mayukh Biswas (B.Plan, 2nd year)

The experimental township and 'The City of Dawn' Auroville of Viluppuram district, Tamil Nadu, designed by Ar. Roger Vexation, promotes progressive harmony by moving toward universality. Sri Aurobindo and the Mother have diagnosed the contemporary plight of humanity as an evolutionary crisis of humanity in the early 1930s and the realization of macrocosmic fraternity could lead to the manifestation of human unity. So, the Mother initiated Auroville in 1968 as a community where humanity is embraced. As an incipient experiment, Auroville laid the foundations in planning to break down barriers of discrimination, allowing people to live together regardless of gender, nationality, caste, race, ethnicity, religion, background, age, creed, wealth, etc. It can inspire India as well as the world to recognize the importance of more cities like it to stem the rising discrimination in the future. The curriculum, work-life, infrastructural and architectural support, land development, community participation of Auroville is so good that there is no source or manifestation of division among humanity, and hence 3000 people from 58 countries live there. Integrated urban and rural development strategies have been incorporated into the Auroville master plan. So in the face of discrimination, the world must design such cities with futuristic planning, innovative conceptions, and effective law enforcement; these will enable people to participate more actively with their full potential and these participations will truncate the discrimination to the maximum extent possible by making liveable cities for all.

**LGBT COMMUNITY & SPATIAL PLANNING**  
- Mayukh Biswas (B.Plan, 2nd year)

Through the past decades, LGBTQIA+ (lesbian, gay, bisexual, transgender, queer/ querying, intersex, asexual, and others) communities have been facing a crucial time and many people hold negative opinions about these communities that prevent them from achieving their full potential in education, health, work sectors. UNDP survey shows that though 68.7% of non-LGBT people show a positive posture towards the LGBT communities, when it comes to the equal right it is just 59.5% and positive posture for having an LGBT person in the family is just 42.3%. Due to these disparities in posture, there is a tremendous supply-demand gap to them due to scarcity of resources.

In order to synchronize the system so that the LGBT community can utilize its full potential, planners should strive for inclusive planning that will bring equity and inclusion to all besides enhancing social and economic development. Inclusive planning can get wide acceptance and ensure a greater level of access to all goods and services, resources, and infrastructure without any bias. Some conservative groups may not abide by it but without the prejudice act, the communities will be more productive. Expanding the implementation of inclusive planning and leadership will enable greater success. Besides this, more attention towards the mechanism of self-regulation by urban local bodies is required for preserving the LGBT neighbourhood's vitality and addressing the pressure of mainstreaming to preserve the LGBT life and providing long-term sustainability.

**PLANNING MAY HAVE THE ANSWER TO THE HOW AND WHY OF THE FUTURE THAT IS TO COME**  
- Mayukh Biswas (B.Plan, 2nd year)

Rapid urbanization over decades has led to the adoption of progressive urban agendas for living together regardless of caste, race, gender, age, income, religion, etc. To accomplish this, planners must plan the cities so inclusively that the planning will benefit broad constituencies in the future. Inclusive planning can encourage a noetic understanding of concomitance genuine but to get prosperity in this planning, people's participation is crucial for future progress.

Numerous cities have already adopted the concept of having inclusive cities while the majority of cities are still dealing with discrimination worldwide that need to be resolved by congruous planning cause in the future there will be more branches of people from different backgrounds.

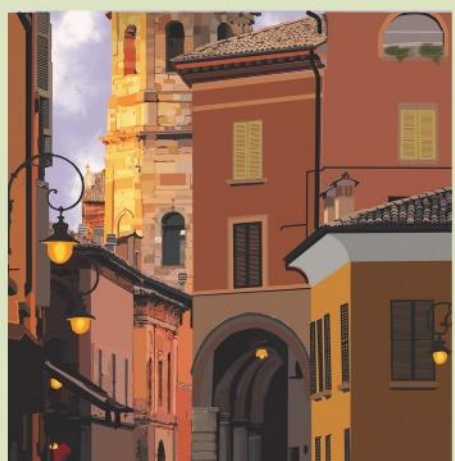
To plan an inclusive city for all, planners need to give priority to the choice, way, and standard of living, needs, and requisites for individuals on an equal basis and providing appropriate infrastructural support to the society so that it will be sustainable and resilient in long run.

Spatial, social, and economical inclusion must be there so that the essential infrastructure will be affordable to all and economic development will be there.

So, the desiderata of all individuals must be taken care of for this planning and planner surely will be able to make a better future where all will live together.

**STUDENT ILLUSTRATIONS**

"In the end, or society will be defined not only by what we create, but what we refuse to destroy."  
- John Sawhill



"As an artificial world, the city should be so in the best sense: made by art, shaped for human purposes."  
- Kevin Lynch

When art and space go hand in hand



Illustrations By:  
Vishakha Gondhali  
(MURP, 1st year)



"Our public spaces are as profound as we allow them to be"  
- Candy Chang



## CAN MODERN CITIES BE SUSTAINABLE?

- Kshitij Tewari (MEPM, 1st year)

The paper titled "Urban Ecological Footprints: Why Cities Cannot Be Sustainable – And Why They Are A Key To Sustainability" by Rees and Wackernagel starts with a brief introduction of how the human ecology was transforming meaning to say that how the industrial revolution of the later 18th and the early 19th centuries impacted the overall spread of the human settlement.

*"The industrial revolution was a transition phase for the manufacturing as well as productions processes. It led millions of people to migrate from the suburbs and outskirts to the cities."*

The reasons of migration were many; a few people migrated in the search for work whereas other migrated to attain a better quality of life as compared to that in the villages.

It might even be said that The Industrial Revolution was then by far the greatest reason for the biggest migration humanity had ever seen.

The major impact of the Industrial Revolution was observed in Europe and the United States. It then led to migrations in Australia, Europe and North America and in some senses may even be observed in Asia.

*"Three quarters of the populace of the industrialized countries by then had started to live in the cities or towns and it was predicted that about half of humanity would become city-dwellers by the end of the century."*

Urbanization is not just an economic or demographic phenomenon but is also in fact a symbol of human ecological transformation. The key to sustainability according to the authors is the understanding of this dramatic shift in human spatial and material relationships.

They go on to say that cities as per analysis were directly linked to global ecological decline and thus by themselves were unsustainable.

The 20th century thus marked the biggest turning point in human history. After the birth of agriculture and the beginning of the possibility of fixed human settlements, the 20th century made it evident that human economic activities were capable of affecting the global biophysical systems and processes.

It not only would prove to be fatal for the geopolitical security but also the global ecological stability. When millions of people migrated towards cities and towns, the population density of the towns and cities increased exponentially leading to reduction in the availability of per capita consumable resources. Pollution, genetic modification and deforestation were all consequences of increasing economic activities of humans. Vitousek may be cited for exemplifying this; more artificial nitrate is now applied to the world's croplands than is fixed from the atmosphere by microbial activity and other natural processes combined.

The decreasing fish stocks evident from the fact that fish catches were in decline both the proportions would be steadily increasing. Rees and Wackernagel cite Daly to state that it was high time that the world must start to switch the assumption of "empty world" to "full-world" economies so as to ensure that we do not miss out on the bigger picture.

Thomas Malthus in the first edition of "An Essay on the Principle as It Affects the Future Improvement of Society with Remarks on the Speculations of Mr. Godwin, M. Condorcet, and Other Writers" proposed a theory which was later known as the Malthusian Theory.

*The theory talks about how human population grows in a geometric progression but the growth of production of food was and would always be in an arithmetic progression and hence infinite human hopes for social happiness must be vain.*

In short he stated that no matter what the situation, human population growth would always outrun the growth of production. He was sometimes referred to be an economist pessimist who viewed poverty as humanity's inescapable lot but this argument of his leads to the basis of the theory of the Maximum Carrying Capacity of Earth.

The idea of a threshold or a fixed carrying capacity states that there is just a maximum population of any species that this Earth can sustain indefinitely without permanently impairing the productivity of the habitat.

In case of humans, this idea seems to be somewhat faltering in the sense that humans unlike other species are capable of continuously increasing the carrying capacity of Earth by eliminating competing species, through technology or by importing locally scarce resources.

Most economists and planners of then argued against this idea of a fixed carrying capacity of Earth but few argue otherwise too. They state that economy is by far an inextricably embedded subsystem of the ecosphere. No matter how much our technology develops and improves, we humans are ultimately biophysical entities and somehow the technological developments will be nullified by the ill impacts that they bring along with them.

For the world to come to the realization that until and unless each one of us starts to consume sustainably, this world will never be enough.

*Minimalism may replace the existing consumerism and materialism in the coming ages as the most preferred lifestyle and if it happens, we might just be able to achieve the dream of a sustainable future.*

Urban areas may lead this battle from the front because of a better understanding of sustainability and allied subjects and a much wider experience of the impacts of urbanization on the Quality of Life of the populace inhabiting the modern urban spaces.

## ECONOMIC PLANNING

- Dileep Kumar (MURP, 2nd year)

Two waves of Covid-19 virus has been adversely effected economically and psychologically. Unemployment rate reaches to 23.5% in April 2020 where it attains 8.7% in F21 due to ease of lockdown and GDP for F21-22 expected to be negative growth of 11.8%. Fall of economic growth due to pandemic results in loss of 2 million jobs approximately.

Covid-19 pandemic demonstrate the voids in the health and administrative infrastructure. In addition to rise of unemployment, negative growth rate of GDP, increase in inflation rate due to economic losses resultants of Covid-19 there is another major factor that going to effect the economic growth of India near future is rise in the population growth. Indirectly Covid-19 pandemic effecting the economic growth by influencing the social development.

Pandemic causes to closure of educational institutions, 15.8 crore girls dropped school education and 320 million students affected with lockdown will be resultant in negative impact on exploring competitive job hunt and economic growth of the country.

Economic planning should be aligned with the future rise in the population growth in order to achieve sustainable and inclusive growth. With annual growth rate of 1.8% India population grows to 1.36 billion from 1994 while china population grows to 1.42 billion from 1994 with annual growth rate of 0.6%. In order to revive and rise the economic condition and human resources of India, the population explosion should be utilised to benefits economy.

Even though population explosion induces negative impact on economy and natural resources, India can enjoy explosion in terms of population dividend and stabilisation. UNDP reports that other than population explosion India experiences its population stabilisation in 12 years earlier than expected. In next two decades India will have 62% of population at age group of 15 to 59 and becomes one of the youngest countries in world. 62% of working population will be human resources to country's economic growth if they are utilised to fullest. In order to make advantage of population dividend, they should be rise in literacy rate, increase in health infrastructure and skill education. India spends only US \$120 to US \$790 per student in 2020 while Norway and USA spends US \$15,000 and US \$12,800 per student in 2015 i.e. we are spending only 6% of their expenditure per student. In India total expenditure on health it increased from 4.5% in 2014 to only 5.4 % in 2020.

One of the ways to revive the economic condition and human resources of India is to increase the health care infrastructure, education and skill development. Safeguarding the population dividend by improving the health and education facilities, Adolescents and youth will be the investment for future economic growth of India. In order to making this population dividend as a night mare it should be turned into opportunity for economic development of country.



# Student Achievements

## XXII Annual NOSPlan Convention 2020 - 21

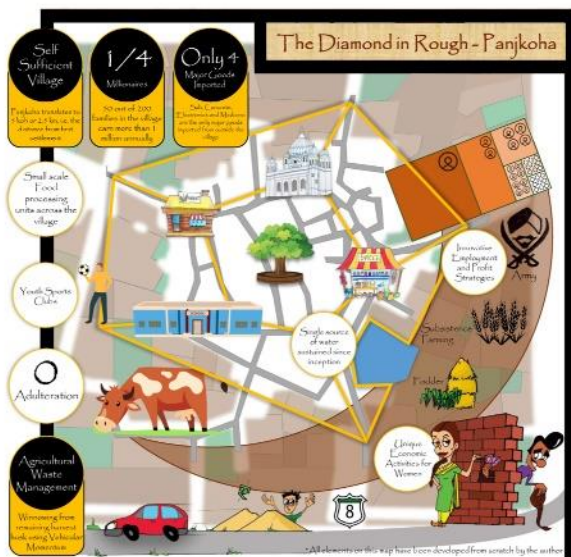
Convention Dates : 29th - 31st January, 2021  
Host College : School of Planning and Architecture, New Delhi

**Overall WINNERS - School of Planning and Architecture, Vijayawada**



**PUNARUTTHAN (Resurgence) - NOSPlan Annual Convention 2020 - 2021**  
NOSPlan Organisation of Students of Planning is a national level organization with students from different institutions participating across the country. An Annual Convention is held every year for the students to participate, compete in various competitions and interact to share their ideas and experiences with one and other. The 22nd Annual NOSPlan Convention 2020-21 was hosted by School of Planning and Architecture, Delhi virtually though online platforms. Amidst the chaos and the pandemic, the convention was held successfully.

The 3-day convention constituted webinars, workshops and 21 competitions under various trophy heads: Planning Trophy, National Publication Trophy, Entertainment Trophy and Gaming Trophy. Various prominent and esteemed planning organizations have collaborated with NOSPlan this year, such as: Institute of Town Planners India, National Institute of Urban Affairs, CURE, Planning Tank, Nonurbanism Foundation, Urban Box, and many more. Out of 21, 7 competitions were in collaboration with these esteemed organizations. Nirwan, the current General Secretary of NOSPlan in the Executive Council along with his executive council consisting of students from other institutions was behind the success of the event and physically present in SPA Delhi to receive the award on behalf of Karthikeya Verma (Unit Coordinator), Rithvika Dara (Associate Editor) and Nitya Mowla (Unit Treasurer). The award was felicitated by Prof. Dr. D.S. Meshram placing SPAV on the top with news published and circulated on various platforms.



- Planning Trophy (6 events) – SPAV Winners**
1. Design It Accessible (in collaboration with NIUA)  
Position – 1st Runners Up
  2. CURE for Basti (in collaboration with Centre for Urban Regional Excellence)  
Position – 2nd Runners Up
  3. Strength Mapping (in collaboration with Nonurbanism)  
Position – 3rd Runners Up
  4. Map It Out (in collaboration with Urban Box)  
Position – Winners and 1st Runner Up
  5. Live Debate  
Participation – 1 team
  6. Cyburba Trifecta (Quiz)  
Position – Winners
- Gaming Trophy (4 events)**
1. Minecraft - Winners
  2. Rocket League – 2nd Runners Up
  3. Chess
  4. Cities Skylines



- National Publication Trophy (4 events) – SPAV Winners**
1. Showcase Presentation  
Position – Winners
  2. Planicature  
Position – 2nd Runners Up
  3. Montage  
Position – 2nd Runners Up
  4. Article Writing  
1 Entry to finals
- Entertainment Trophy (4 events)**
1. Renew the Rasas (Dance) - 2 entries from our college got selected for top 6
  2. Karke Dikha (Drama) - 2 entries from our college got selected for top 6
  3. Can we All Wear It (Fashion)  
Position - 2nd Runners Up
  4. Taal Anusaar (Singing)

THE TIMES OF INDIA

### SPA Vijayawada emerged champions at NOS plan convocation

TNN | Jan 31, 2021, 07:58 PM IST



VIJAYAWADA: The students of School of Planning and Architecture (SPA), Vijayawada bagged the overall championship by emerging winner at the prestigious national contest organized by the NOS plan.

The SPA, Vijayawada team outsmarted the rivals from 12 planning departments of top planning schools across the country in the competition to win the trophy held between January, 28-31. The students participated in 20 competitive events consisting of professional and cultural themes. "Our students have once again proved that they are champion material," said dean of planning Dr Abdul Razak Mohammed.

SPA Vijayawada director Dr Minakshi Jain and planning wing HoD Dr Adinarayana had congratulated the students on the achievement.

NOS Plan, the Organization of Students of Planning, is a platform for interaction between the students of planning and the entire planning fraternity at large. It is organizing competitions as part of an annual convention where students of planning from across the nation come and compete in academic and non-academic events.

The theme of the NOS plan 2020-21 'PUNARUTTHAN' has triggered a discussion about the understanding of the existing 'way of life' as people across the globe adapted to living anyway. 'PUNARUTTHAN' is an act of rising again and resurrection. "They have designed the theme as the globe passed through the turbulence of 2020 and back with bang in 2021. We showcased the rising again concept in such a way that floored everyone," said Nirwan, the final year student, who led the team.

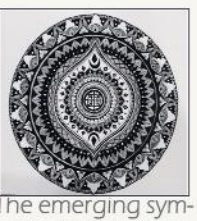
Times Of India (TOI) article on the Achievement of School of Planning and Architecture, Vijayawada who emerged as the overall winners in XXII Annual NOSPLAN Convention.

**Faculty Co-ordinator:** Dr. Abdul Razak Mohamed, Professor & Head DOP, SPAV  
**Committee Members:** Asst. prof. Jivantika Satyarthi and Asst. Prof. Jayesh Bhagwat

### Artwork



It is always reviving to enjoy colourful moments in black and white life



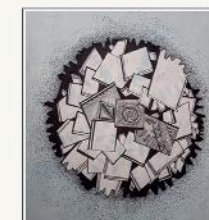
The emerging symmetry in patterns



We all are celluloids in the reels of time, playing the movie of life



The power of Duality



Let your uniqueness rise amidst the uniform society



It's better to be a lone wolf in the right path than be in the pack moving forward in the wrong path

### Photography



Life is a coin with Positive and Negative sides



Optimism lies even in the slightest reflection



It is always our choice to be better, to do better

# Student Activities

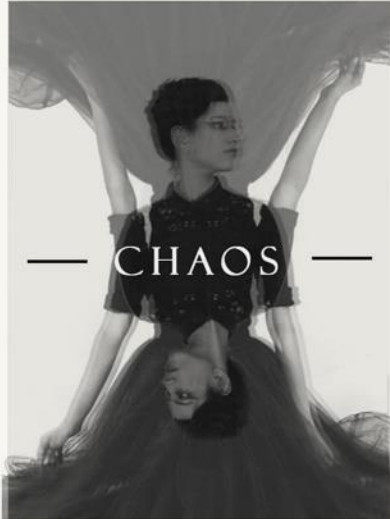
## Avant Garde Club

Fashion Club  
School of Planning & Architecture, Vijayawada



Art-iculate X Reverse Ekphrasis

ART-ICULATE



ΕΚΡΗΒΨΙΣ

ART-ICULATE



ΕΚΡΗΒΨΙΣ

## Monologue

Drama society  
School of Planning & Architecture, Vijayawada



Act well your part; there all the honour lies



The CHALLENGING performance  
The SPOTLIGHT performance



## Club 29

Dance Club  
School of Planning & Architecture, Vijayawada



Dancing through the Decades



## Tasveer

Photography Club  
School of Planning & Architecture, Vijayawada



SAFDURJUNG'S TOMB



GODLY



CHARMINAR



## Ritmo

House of Music  
School of Planning and Architecture, Vijayawada



Musicology



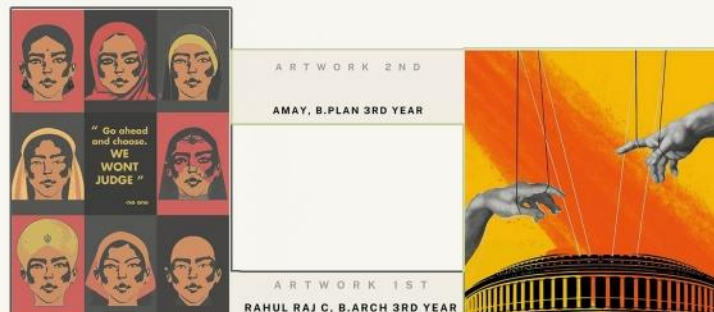
## Club iO

Official Tech Club  
School of Planning & Architecture, Vijayawada



## Club Aaira

Literary and Editorial Club  
School of Planning & Architecture, Vijayawada





**RLCP - 2020**  
**International Conference on**  
**Resilient and Liveable City Planning**  
**- Transforming Urban Systems -**

**10<sup>th</sup> - 13<sup>th</sup>**  
**FEBRUARY**  
**2021**  
**(Virtual Mode)**

About	Themes	People
<p><b>Overview</b></p> <p>The urban population which was around 30 per cent in the year 1950; has been projected to be 66 per cent by the year 2050. Currently 55 per cent of the world's population live in urban areas.</p> <p>The urban population has been showing rapid growth since 1950, i.e. 746 million in 1950 to 3.9 billion in 2014. Even the countries in Asia, which have a lower level of urbanization, are home to 53 per cent of the world's urban population, followed by Europe at 14 per cent and Latin America and Caribbean at 13 per cent.</p> <p>The literature suggest, although urbanization creates social and economic opportunities, it shatters and disintegrates the natural ecosystems and infers high pressure on natural resources and the environment. Urbanization is one of the serious cause for the devastation of the natural habit, which further leads to the deterioration of the air quality and urban environment.</p> <p>Planners, Urbanists, Architects and Policy makers have to work together in order to ensure that planning and development can meet our present needs without compromising the ability of future generations.</p> <p>The challenge of planning sustainable contemporary cities lies in considering the dynamics of urban systems, exchange of energy and functional integration in urban metabolism. In this RLCP 2020 conference, the issues pertaining to resilience and liveability shall be deliberated to promote overall sustainable planning and development of cities.</p> <p><b>Objective</b></p> <p>RLCP's objectives is to serve as a platform for sharing knowledge and new insights to the academicians all around the world in the field of urban planning and urban design. The conference offers an opportunity for engagement among international organizations, research institutions, representatives from the government and private sector. This conference opens the door to all the industry practitioners and academic researchers to share their viewpoints.</p> <p>In this awake the conference calls for papers. All selected papers will be published as RLCP-2020 conference proceedings with ISBN number. Screened high quality paper will be published in Web of Science (Emerging Sources Citation Index) and SCOPUS indexed journal, (i) International Journal of Housing Markets and Analysis, and (ii) Property Management, by EMERALD Publishing Limited, United Kingdom.</p>	<p><b>01   Planning Studies</b></p> <p>Planning theories and techniques; Remote sensing and GIS applications; Regional studies; Multi-disciplinary approaches to planning; Development and Planning; Heritage and Conservation.</p> <p><b>02   City Planning and Design</b></p> <p>Changing Demographics; Conceptual Models and Framework for Cities; Urban Performance; City Planning; Housing and Economic Development; Urban Sprawl; City Mobility; Land use and Transportation; Urban Transformation; Addressing Complexity in Cities; Safe City design; Urban Design</p> <p><b>03   Ecology and Society</b></p> <p>Human impact on environment, Transformation of environment; Water Management in the built environment, Green Infrastructure; Urban Ecology, Urban Heat Island (UHI); Urban biodiversity and Ecosystems; Resilience in Ecology</p> <p><b>04   Urban Energy and Resilience</b></p> <p>Urban resilience planning; Resilient Infrastructure; Renewable Energy; Energy; Energy Rating; Energy Conservation; Energy Footprint; Valuation Methods &amp; Techniques; Life-cycle Analysis; Carbon Trading; Energy Auditing; Energy Efficient &amp; Resilient Development; Adaptive Governance for Resilience; Challenge of Urban Resilience; Resilience into Practice; Microclimate.</p> <p><b>05   Sustainable Urban Systems</b></p> <p>Sustainable Urban Dynamics; Economics Sstainability; Socio-cultural sustainability; Environmental Sustainability; Sustainable waste management; Energy efficient sustainable development; Defining, measuring and aligning; liveable, resilient and healthy cities; Spatial Planning Response to Urban Risks</p> <p><b>06   Liveable City</b></p> <p>Frameworks of liveability; Community &amp; Landuse &amp; Planning; Accessibility to Services; Environment &amp; HHealth; Sustainable Landscape Planning; Econmic &amp; Housing Variance; Universal design &amp; Age friendly Planning</p>	<p><b>Chief Patron</b></p> <p><b>Ar. Brinda Somaya</b>                      Chairperson, Board of Governors,                      School of Planning and Architecture Vijayawada</p> <p><b>Patron and Chairperson</b></p> <p><b>Prof. Dr. Minakshi Jain</b>                      Director, School of Planning and Architecture Vijayawada</p> <p><b>Convenor, RLCP 2020</b></p> <p><b>Dr. Adinarayanane R</b>                      Dean, Planning and Development, SPAV                      Head, Department of Planning, SPAV</p> <p><b>Secretary</b></p> <p><b>Prof. Dr. Abdul Razak Mohamed</b>                      Secretary (Organising Committee)                      Professor, Department of Planning, SPAV</p> <p><b>Dr. Ayon Kumar Tarafdar</b>                      Secretary (Technical Committee)                      Dean, Planning and Development, SPAV</p> <p><b>Dr. Amitava Sarkar</b>                      Secretary (Finance)                      Registrar i/c and Associate Professor,</p> <p><b>Joint Secretary</b></p> <p><b>Organising Committee:</b>                      Dr. Prasanth Vardhan, Dr. Prashanti Rao</p> <p><b>Technical Committee:</b>                      Dr. Janmejy Gupta, Dr. Shanmuga Priya G,                      Dr. Faiz Ahmed C</p> <p><b>Executive Members</b></p> <p>Mr. Rajeev R, Mr. Valliappan AL, Ms. Naina Gupta, Ms. Ekta, Ms. Jivantika Satyarthi, Dr. P. Siva Prasad, Mr. Deepak Kumar, Mr. Vijesh Kumar V, Mr. Madhav Rao T, Dr. Y. Srinivasa Rao, Mr. Janardhana Reddy</p> <div style="background-color: #d9ead3; padding: 5px; text-align: center;"> <p><b>No. of Abstracts Recieved</b></p> <p style="font-size: 2em; font-weight: bold;">300+</p> </div>



DYNAMIC PLANNING DESIGN   
 SOCIAL ECONOMIC SYSTEMS   
 PLANNING   
 URBAN RESILIENCE   
 SUSTAINABLE DEVELOPMENT



**Organized by**  
**Department of Planning**  
**School of Planning and Architecture, Vijayawada**  
 An Institute of National Importance, Ministry of Education Gov. of India



RLCP - 2020

# International Conference on Resilient and Liveable City Planning

- Transforming Urban Systems -

10<sup>th</sup> - 13<sup>th</sup>  
FEBRUARY

2021

(Virtual Mode)

## Authors and Paper Details

### THEME 01: LIVEABLE CITY

- 1) Sarika Bahadure, Shreya Sable, Aishwarya Umbarje, Manas Vijayan - Public Spaces and their Place-Making in Gangtok City,
- 2) Siddarth Amulaju, Chidambara - Planning Strategies for Walkable Neighborhoods in Delhi
- 3) Satpal - Measuring Walkability Index along Metro Station Areas of Faridabad City
- 4) Ritu Sanglikar and Amruta Deshpande Kakirde - Analyzing Effectiveness of NMT in Relation to Livability in The Urban Area
- 5) Vasudevan K R and Ayon Kumar Tarafdar - A Framework towards Child Friendly Inclusive Neighborhood Planning in Chennai
- 6) Prashanti Rao - Gated Communities Social Sustenance and Challenges of Open Space Standards in India
- 7) Prachi Patel - Understanding of Urban Spaces: Ahmedabad
- 8) Adwait Limaye - Understanding the Economic Benefits of Urban Green Spaces (UGS) Through a Place Making Perspective
- 9) Shreya Jaiswal - Planning for Resilient Cities, Healthy Communities: A Critical Assessment of Healthy and Resilient Cities Concept for Sustainable Development in India
- 10) Ebin Horrison Salal Rajan, Lilly Rose Amirtham, Guruji V - The Role of Built Geometry on the Outdoor Thermal Comfort Conditions of a Market Space in Tambaram, Chennai.
- 11) Aishwarya Bali and Chithra K - Inclusiveness of Geriatric Population: Assessment of Communities in Kochi City
- 12) Muskan - Building Climate Resilient Health Systems: A Case Study of Imphal, Manipur
- 13) Nivya PC and Chithra K - Women's Safety in Urban Spaces: Assessing Levels of Women's Safety in Kochi City
- 14) Raunak Prasad and Rina Surana - Affordable Housing Under BSUP Scheme in Lucknow City
- 15) Somashekhar V Dhotrad, Hima C S and Virupaxi Bagodi - Resilient Socio-Cultural Campus Planning in Covid-19 Context. Case: Siddharoodha Mattha's Campus at Hubli, Karnataka
- 16) Shivani Paliwal and Dwijomala Hanjambam - Mangroves & Climate Change: Relation & Responsive Strategies
- 17) Nidhi Sachdeva, Charu Jain and Qamar Irshad - Urban Public Space: Exploring Transformations in a Cultural Neighborhood of Delhi
- 18) Gaurab Das Mahapatra, Jugal Kishor Devanath and Soumyasree Chakraborty - Inclusivity in Spatial Standards: A changing paradigm in accessibility scenario in India

### THEME 02: ECOLOGY AND SOCIETY

- 1) Parisutha Rajan, Minakshi Jain, Abdul Razak Mohamed, Andreas Matzarakis and IP Singh - Selection of Native Evergreen Trees for Enhancement of Outdoor Human Thermal Comfort in Urban Parks: Panagal Park, Chennai, India
- 2) Stuti Punglia and Sarika Bahadure - Assessment Framework for Planning of Urban Green Spaces
- 3) Sachin C Kuzhivelil, Mona Iyer, Gargi Mishra, and Siddh Doshi - An Assessment of Spatial-Ecological and Water Sensitive Planning for Calicut
- 4) Krishna Jhwar, Mona Iyer, Siddh Doshi and Gargi Mishra - Mainstreaming Water Sensitive Concepts through Spatial Planning for Bhopal
- 5) Sajida Shahnum - Geothermal Energy Potential of Urban Heat Island: A Case Study of Gurugram District, Haryana, India
- 6) Bonda Kiran Kumar and Raghu Teja Vemana - People Participation Planning Attempts to Fight Water Scarcity in the Cities
- 7) Yenisetty Pavan Teja and Pankaj Bahadure - Mapping Accessibility to Urban Green Spaces from Public Transit Using GIS: A Case of Nagpur City, India
- 8) Shraddha Bahukhandi and Kalpana Pandit - Planning for Disaster Resilient Cities: Problems & Prospects
- 9) Faiz Ahmed Chundeli, Adinarayanane Ramamurthy and Minakshi Jain - Scientific Assessment of Blue and Green Mitigating UHI at Embryonic Stages of Planning and Design - Amaravati, Andhra Pradesh, India
- 10) Pratiksha Baruah and Abdul Razak Mohamed - Wetland Conservation is Essential for Ecotourism Development - Experience from Deepor Beel Lake, Guwahati
- 11) Driver Berjis and Sharma Rutool - Addressing the Status Quo of Large Water Bodies in India: A Review of Legal and Governance Frameworks through the Select Cases of Thol Lake, Gujarat and Vembanad Lake, Kerala
- 12) Pahini Shah and Digisha Mehta - Analysis of Public Spaces: Identifying the Gap between Design Intent and Design Outcome
- 13) Geetha, A and Shyni Anilkumar - Human Ecology and Community Resilience of Tribals in Wayanad, Kerala
- 14) Shreya Banerjee and Subrata Chattopadhyay - A Qualitative Assessment of Outdoor Space and Thermal Comfort Through A Novel Phenomenographic Approach - A Case of an Informal Micro-Entrepreneurial Neighborhood in Dharavi, Mumbai
- 15) IP Singh, Banu Chitra and Minakshi Jain - Developing Cognitive Skills and Sensitizing Children to Environmental Issues, Through Nature Travel

## Authors and Paper Details

### THEME 03: URBAN ENERGY AND RESILIENCE

- 1) Vijaymahantesh A Dharmanti, Goutham Konikar S.M and H.S. Kumara - TOD for Resilient Cities: Evidence from Hubli-Dharwad Twin City
- 2) Chiranjeevi Teja Koya and Ayon Kumar Tarafdar - A Planning Framework Towards Inclusive of Resilience and Livability in Vijayawada, India
- 3) Rahul Roy and Ayon Kumar Tarafdar - Planning in The Context of Urban Heat Vulnerability: North East District, Delhi
- 4) Sonal Singh and Tanya Kaur Bedi - Climate Change Adaptation Through Green Infrastructure - Satna City
- 5) I Simheca and Govardanan. S - Mobility in The City of Tomorrow
- 6) Sneha Bhattacharyya, Mona Iyer, Sachin S and Rajan Rawal - City Level Fuel Energy Efficiency in Municipal Solid Waste Collection: A Case of Ahmedabad
- 7) Palak Patel, Mona Iyer, Sachin.S and Rajan Rawal - Building level energy consumption in water services for Ahmedabad
- 8) Riddha Basu, Haimanti Banerji and Subrata Chattopadhyay - On-Site Assessment of Indoor Liveability of Emerging Housing Systems in India
- 9) Akruhi Murhekar and Apoorv Agrawal - Addressing Climate Equity in Climate Action Planning
- 10) Kasturi Mandal and Priyanka Dey - Enhancing Disaster Resilience through Alternative Approaches in Planning: A Case Study of Jagatsinghpur, Odisha
- 11) Aishwarya Dwivedi - Urban Risks and Resilience Assessment of Multi-Layered Cities: The City of Bhopal
- 12) Naga Venkata Sai Kumar, Manapragada Sandeep Budde, P. S Chani and Sandeep Agrawal - Advanced Approach to Assess Urban Rooftop Solar Farm Energy Generation
- 13) Vasavi Yarram and Prasanth Vardhan - Operationalization of Electric Vehicle Charging Stations in Urban Areas - Hyderabad
- 14) Dhaval Chauhan and Rupinder Singh - Intentional Unsustainability: Sabarmati Riverfront, Ahmedabad
- 15) R. S. Vishnu and Anurup K. - Critical Appraisal of Tools and Techniques to Analyze & Map Impacts of Relative Sea-Level Rise

### THEME 04: SUSTAINABLE URBAN SYSTEMS

- 1) Sudeshna Kumar, Haimanti Banerji and Biplab Kanti Sen-gupta - Integrating Transit Policies with Land Use for Sustainable Development along an Eco-Fragile Zone of a Metropolitan City - Evidence of East Kolkata Wetlands
- 2) Mani Dhingra and Subrata Chattopadhyay - A Fuzzy Approach for Assessment of Smart Urban Attributes of Traditional Urban Systems in India
- 3) Sudeshna Kumar, Haimanti Banerji and Kankana Roy - Sustainability Dimensions in the Neighbourhood Level of the Megacity of Kolkata: A Segmentation Study Using Computational Social Science Approach
- 4) Anjali Saraswat and Satish Pipralia - System Dynamics Approach for Planning Green Infrastructure in Cities
- 5) Tanushree Biswas and Adinarayanane Ramamurthy - Three-Dimensional Rule-Based City Modelling to Regulate the Spatial Dynamics: A Case of Bhubaneswar City, India
- 6) Bigith V.B and H.S. Kumara - Promoting Sustainable and Resilient Transportation Plan for Thrissur City, Kerala
- 7) Abhilash M.P and H.S. Kumara - Flood Risk Mitigation and Climate-Resilient Infrastructure Provisions of Coastal Cities in India: A Case Study of Mangaluru City
- 8) Sonal Singh and Tanya Kaur Bedi - Sustainable Waste Management for Religious Tourism - Case of Pilgrim City Mathura
- 9) Likith S., Goutham Konikar S.M and H.S. Kumara - Opportunities and Challenges for Sustainable Tourism Development in Sub-Regions: A Case Study of T. Narasipura, Mysuru, Karnataka
- 10) Surbhi Bhatt - Sustainable Waste Management in Hilly Tourist Cities: A Case of Himachal Pradesh
- 11) Pasam Mounika Reddy and Adinarayanane R. - Monitoring Urban Expansion and Its Effects on Land Use and Land Cover Changes in Vijayawada City, Andhra Pradesh, India
- 12) Parul Bhyan, Bhavna shrivastava, and Nand Kumar - Contentious Essence of Sustainability Throughout Building Life Cycle
- 13) Vishal Chetty and Meenal Surawar - Spatio-Temporal investigation of Urban Sprawl in Four Mid-Sized Cities of India Using Geo-spatial Techniques
- 14) Roshmi Sen and Subrata Chattopadhyay - Evaluating Affordable Housing Schemes - A Conceptual Framework for A Triple Bottom Line Approach Towards Sustainability Accounting

## Authors and Paper Details

### THEME 05: CITY PLANNING AND DESIGN

- 1) Nikethana Vattikunta and Madhava Rao T - Urban blocks and streets as major defining elements of sustainable urban neighborhood development and parameters to consider in designing of a sun.
- 2) Ashwini Bellerimath and Bonda Kiran Kumar - Discovering similar planning thoughts of Arthashastra with ekistics and their applicability in current context
- 3) Muhammed Sulfikkar Ahamed and Shyni Anilkumar - Issues and Challenges of Urban Flood Risk Management- A Case of Cochin Municipal Corporation
- 4) Pallavi Tiwari and Sanjukta Bhaduri - Transformations in the Peri Urban Villages of Bhopal, MP
- 5) Prasanth Vardhan and Ayon Kumar Tarafdar - Potentials of Public Leasehold Systems for Urban Infrastructure Investments in Guntur Municipal Corporation
- 6) Priyanka Dey, Purbita Samanta and Sudeshna Haldar - Analysing Urban Morphological Transformation in Conzenian Light: Case Study of A Neighbourhood In West Bengal
- 7) Richa Jagatramka, Ashwani Kumar and Satish Pipralia - Lessons from Vernacular Practices for Planning and Design Of Urban Areas In Chhattisgarh
- 8) Sakshi Surawar and Meenal Surawar - Sustainable Design Approach at Mahdi Bagh: A Case in Nagpur
- 9) Ramya Prasad and Vigneshwaran A - Challenges and Strategies of Backyard Open Green Spaces of Traditional Weaver's Row Houses, in the Case of Kanchipuram, Tamil Nadu
- 10) Noble K. Paul and Aparna S - Transect Approach to Analyse Fragmented Development: Case of Airport Corridor of Bangalore
- 11) Somashekhar V Dhotrad, Hima C S and Virupaxi Bagodi - Redefining the Historic Textile Industrial Hub of Khadi Gramodyog Campus, Bengeri, Hubli, Karnataka
- 12) Adwait Limaye - Creative Industry Cluster (CIC) Planning as a Tool for Sustainable Urbanisation - Case of Bellaguntha, Odisha
- 13) Ankit kumar, Rachna Khare, Sandeep Sankat and Pratyosh Madhavi - Fire Safety Provisions for Elderly in High Rise Residential Buildings: A Global Comparison of Codes & Standards
- 14) Fathima Mohamed and Shiva Ji - Post Occupancy Evaluation of an Institute Hostel Building - IIT Hyderabad, India

### THEME 06: PLANNING STUDIES

- 1) Kalyani Ingle and Subrata Chattopadhyay - Application of Geospatial Techniques in Urban Planning
- 2) Rashi Gupta, Satya N Mandal, P.S.N Rao and Deepak Bajaj - Assessment of Land Administration System for Planned Development
- 3) Chandni Chowdhary and Satish Pipralia - Systems Approach in Heritage Management
- 4) Riya Sethia and Bimal Puthuvayi - Two-Way Approach to Carrying Capacity as a Planning Tool to Foster Sustainability in Coastal Tourism Destinations
- 5) Goutham Konikar S.M, Lakshmi pathi T.L and Odai Al Balas-meh - Spatio-temporal Analysis of Urban Growth using GIS and Remote Sensing: A Case Study of Mandya Taluk in Karnataka.
- 6) Sony Salam A and Shailaja Nair - Census Houses and the Assessment of Housing Vacancy in India: Need for Rational Approach
- 7) Sindhuja Garimella, Krithika Sridharan and Himanshu Panwar - Current Practices of Port Development in India - Leading to Unbalanced and Non-Uniform Regional Development
- 8) Prakash Nagesh and Namrata Ghosh - Mobility as Service: Understanding Transport Governance in Integrated Mobility Service
- 9) Lakshmi Priyanka Yarlagaadda and Albert J. Hefferan - Impact of Socio - Economic Characteristics on Travel Behaviour, A Case of Vijayawada City
- 10) Prasenjit Shukla - Child Responsive Urban Planning - Experience from Neighbourhood Planning In Ningbo, China
- 11) Dinesh Nath Reddy Eda, Dr Abdul Razak Mohamed - Strategies for Drinking Water Resource Management in Araku Valley Tribal Villages, Andhra Pradesh, India
- 12) Bhavya Mehta and Gireendra Kumar - Evaluation of Metro in Jaipur City, India
- 13) Gargi V. Tadas, Amrita A. Padhye and Sarika P. Bahadure - Sustainable Land Use Planning for Puducherry, India
- 14) Sachi Dongarwar and Sarika bahadure - Diagnostic Assessment of The Slums at Puducherry, India
- 15) Bhupinder Pal Singh Dhot, Jit Kumar Gupta and Jasleen Kaur - Planning and Designing Sustainable Cities in India
- 16) Ashutosh Saini, Gireendra Kumar and Ashwani Kumar - Spatio-Temporal Pattern Analysis for Appropriate Urban development in Class II and Class III Towns of Himachal Pradesh
- 17) Arjun R C, Agnes R, Ann J, Ajeesh K, Bharath R T, Grace E R, Jenny M S, Reshma E G, Shahina S, M, Sreelekshmi and Vishnu R S - Conditional Assessment of One Lakh Housing Scheme in Nellivila Colony, Balaramapuram Strategies for Housing Condition Betterment Using Existing Schemes
- 18) Virupaxi Bagodi - Resilient City: A Review
- 19) Swasti Sharma, Bhavna Shrivastava and Ashwani Kumar - Demographic Transition of Shimla Town Due to Rapid Urbanization

[www.rlcp2020.spav.in](http://www.rlcp2020.spav.in)



RLCP - 2020  
International Conference on  
**Resilient and Liveable City Planning**  
- Transforming Urban Systems -

10<sup>th</sup> - 13<sup>th</sup>  
FEBRUARY  
**2021**  
(Virtual Mode)

GALLERY



[www.rlc2020.spav.in](http://www.rlc2020.spav.in)

# Editor's Note

With the paradigm shift in the medium of education that the pandemic brought along with itself, the woes of students as well as the faculties have increased in the past two years. The silver lining is the understanding of resilience being a necessity in the present day planning perspective that has emerged to the forefront. The world is changing as we speak and at the core of this change are the planners as well as the educators involved in the courses of planning. School of Planning and Architecture has always focused on inculcating within its students an understanding of equity, justice and social welfare. This semester, we overcame the restrictions of online education with the combined efforts of the institution and the students. This semester's newsletter is focused on how we at SPAV have overcome the complexities of online education and developed a framework to obtain data online and conduct researches as well as remote analysis of locations.

Book Suggestsions	Innovations	Student Editors Achievements
<p>1) <b>The End of Nature</b> by Bill McKibben</p> <p>2) <b>Ecotopia</b></p> <p>3) <b>The Skeptical environmentalist: Measuring the Real State of the World</b> by Matthew A. Cole</p> <p>4) <b>Saints at the River: A Novel</b></p> <p>5) <b>Environmentalism: a Global History</b> by Ramchandra Guha</p> <p>6) <b>Serena</b> by Ron Rash</p> <p>8) <b>The Alchemist</b> by Paulo Coelho</p> <p>9) <b>Blessed Unrest</b> by Paul Hawken</p> <p>10) <b>Environmental Cancer– A Political Disease?</b> by S. Robert Lichter and Stanley Rothman</p> <p>11) <b>Slaughterhouse-Five, or, The Children's Crusade: A Duty-Dance with Dby Kurt Vonnegut</b></p> <p>12) <b>The Transport Debate (Policy and Politics in the Twenty-First Century)</b> by Jon Shaw and Iain Docherty</p> <p>13) <b>Good City Form</b> by Kevin Lynch (1995)</p> <p>14) <b>The Power Broker: Robert Moses and the Fall of New York</b> by Robert A. Caro (1975)</p> <p>15) <b>The Geography of Nowhere: The Rise and Decline of America's Man-Made Landscape</b> by James Howard Kunstler (1995)</p> <p>16) <b>Silent Spring</b> by Rachel Carson (1962)</p>	<p><b>ECOAVATIONS</b> (ENVIRONMENTAL INNOVATIONS)</p> <ul style="list-style-type: none"> <li>• <b>Ocean Fertilization:</b> <i>Dumping Iron dust into the ocean to remove Carbon</i></li> <li>• <b>Ecotarianism:</b> Instead of Calories, start to count the carbon emissions</li> <li>• <b>Give Up the Jeans:</b> The jeans you so dearly wear are a concern for the environment. So either give up the jeans or recycle the old jeans/donate.</li> <li>• <b>Transumption:</b> Instead of buying, start to lease</li> <li>• <b>Carrotmobbing:</b> Procott instead of boycotting because businesses would do anything for profits.</li> <li>• <b>Hypermilling:</b> Don't just aim for good mileage, aim for the best instead.</li> <li>• <b>Decrease your fashion footprint:</b> Lend it, lease it or donate it but don't keep the garments unused for long while you buy newer ones.</li> <li>• <b>Minimalism:</b> Don't be a saint but be a minimalism practitioner to decrease your overall footprint and help save the Mother Nature.</li> <li>• <b>Precycling:</b> Choose products which come with the least packaging and reduce dependency on packaged items for reducing the overall waste.</li> <li>• <b>No bottle:</b> Say no to packaged water bottles, carry your own bottle, and promote Drinking fountains at public spots.</li> </ul> <p>"Growth is inevitable and desirable, but destruction of community character is not. The question is not whether your part of the world is going to change. The question is how". - Edward T. McMahon</p>	<p>Kshitij Tewari (MEPM 1st Year Student, SPAV) and Dr. Abdul Razak Mohamed (Profesor and Head, Dept. of Planning, SPAV) won the consolation prize for their paper titled, "People's Perception About Weather Changes In Lucknow And How Their Knowledge Of Global Concerns Such As Climate Change Affect The Choices Of A Sustainable Lifestyle" in the session Social Infrastructure and Sustainability during the 1st International Conference on Infrastructure Development (ICID): Theory, Practice and Policy 29-30 April 2021 organized by Adani Institute of Infrastructure</p> <p>Kshitij Tewari (MEPM 1st Year Student, SPAV) appointed as the session president/chair during the 7th International Conference On Social Science &amp; Humanities organized by ISPEC Institute on September 18-19, 2021 in Mus, Turkey (Online Medium)</p> <p>Kshitij Tewari and Dr. Abdul Razak Mohamed published paper "Perception of parents of Lucknow city about the challenges posed by online mode of education for secondary and senior secondary students" in the proceedings book of World children conference-II organized from May 21to23,2021 in Nicosia/Turkish Republic of Northern Cyprus.Paper Indexed in Web of Science.</p> <div data-bbox="1438 1626 1890 1736" style="text-align: center;"> <h3>Things to look out for in next semester</h3> </div> <ol style="list-style-type: none"> <li>1. MINI INYAN</li> <li>2. Webinars/FDPs</li> <li>3. Special Lectures &amp; Workshops</li> <li>4. World Tourism Day Student's Workshop</li> <li>5. Faculty/Student achievements</li> </ol> <p>and much more...</p>

## Acknowledgement

We, the editorial team, are glad to have taken part in curating the third issue of the newsletter namely the 'Planner's Heptagon' - Volume 02 - Issue 01 from the Department of Planning, SPAV. Even as yet another fun yet challenging semester comes to an end. It has shown itself to be a conflux of some of the most rejoiced and difficult times we've had; from hosting many big events, to exploring and excelling everything through virtual mode due to the pandemic outbreak, it has truly been quite eventful at SPAV. This newsletter is an attempt to document the progression of this semester amidst the ongoing pandemic in order to present to you the compendium of various events, activities, etc, associated with this semester. We heartily acknowledge everyone who has contributed to the making of this newsletter.

This work is under the copyright of Planning Department, School of Planning and Architecture Vijayawada

**Contact Us**  
 The Editorial Team

### Department of Planning

School of Planning and Architecture Vijayawada, (An institute of National Importance, MHRD, Govt. of India), Survey No. 4/4, ITI Road, Vijayawada - 520008, Andhra Pradesh, India

To publish your works, mail us at: [publicationscommittee.spav@gmail.com](mailto:publicationscommittee.spav@gmail.com)

#### CHIEF EDITOR



**Dr. Abdul Razak Mohamed**  
Professor & Head,  
Department of Planning, SPAV

#### EDITORIAL BOARD



**Mr. Valliappan AL**  
Assistant  
Professor



**Mr. Rajeev R**  
Assistant  
Professor



**Ms. Naina Gupta**  
Assistant  
Professor



**Ms. Jivantika Satyarthi**  
Assistant  
Professor

#### STUDENT EDITORS



**Mr. Kshitij Tewari**  
Student  
MEPM



**Ms. Rahela Pathan**  
Student  
MURP



**Mr. Arunsharan.K**  
Student  
MEPM



**Mr. Darsan Kumar P J**  
Student  
MTIP