Our society is made of Nature, Culture, and Built which are the main thriving factors for any civilization. Time and again in the recent past we have favoured Built and Culture excluding ecology from the equation. Thus, it becomes imperative for us to revisit this equation to sensitively define and design our cities where ecology is included. This is Ecological Urbanism.
THE BUCKINGHAM CANAL

Chennai, popularly known as Madras is a water drain basin featuring three major seasonal rivers and had thousands of lakes which collected the water from the hills and hillocks around the region. All the water bodies in the city are perpendicular to the sea, thus draining into the sea along the slope. But, the British ‘marvel’ - The Buckingham Canal is parallel to the sea, draining in strategic points into the sea. Over these two centuries, the Buckingham Canal has impacted the course of drainage pattern in the city.

The research is a study of this manmade marvel and its relevancy in the current scenario. We as a collective, collaborated with RVS Padmavathy School of Architecture and conducted two consecutive Urban Design Studios where the students experienced working on an on-ground research project.

... 

URBAN DESIGN STUDIO 1 #URBAN EDGES

Design for the edge of city, rather than just the center

The first urban design studio was themed on understanding the urban edges along the canal and to understand the role of the canal in the current scenario. The overall canal was studied in four stretches by the students and each group was given a section along the canal to reimagine. As part of the UD studio, events were conducted along with the students. As an outcome of the research and the Urban Design studio, an event was curated in the name of Ecological Urbanism where experts from different fields shared their views about the relevance and importance of Ecology in the city followed by a panel discussion on the role of architects in this dialogue. The preliminary study by the students was also exhibited in this event.
**THE BUCKINGHAM CANAL PROJECT**

### Time Line

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td><strong>February</strong></td>
<td>Preliminary Survey and Concept Design</td>
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<tr>
<td><strong>June</strong></td>
<td>Design of RVS Padmavathy Final Year Urban Design Studio with the Buckingham Canal Project.</td>
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<tr>
<td></td>
<td>21st June to 30th June - One week preliminary workshop on mapping along the kotturpuram and adyar stretch of Buckingham Canal.</td>
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<tr>
<td><strong>July</strong></td>
<td>Final Year Urban Design Studio - STUDY</td>
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<tr>
<td></td>
<td>Four groups were split with 5 students each and given four zones to study the buckingham canal in the urban context.</td>
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<tr>
<td></td>
<td><strong>EVENTS</strong></td>
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<td></td>
<td>July 4th - Craveyard Cafe studio inaugurated</td>
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<td></td>
<td>July 9th and 10th - Social Audit with Arrappor Iyakkam (A social activist group)</td>
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<td>July 12th - A skype video call with Vedithum Siddharth on walking along Ganga.</td>
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<tr>
<td><strong>August</strong></td>
<td>Final Year Urban Design Studio - STUDY</td>
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<tr>
<td></td>
<td>Preparation for ECOLOGICAL URBANISM conference.</td>
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<tr>
<td></td>
<td><strong>EVENTS</strong></td>
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<td></td>
<td>August 20th - ECOLOGICAL URBANISM conference.</td>
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<td></td>
<td>August 24th - An Article posted in dTNxt about our conference and the buckingham canal project.</td>
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<tr>
<td><strong>September</strong></td>
<td>Final Year Urban Design Studio - DESIGN</td>
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<tr>
<td></td>
<td>Formation of 11 groups addressing different issues along the canal for the design proposal.</td>
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<td></td>
<td><strong>EVENTS</strong></td>
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<tr>
<td></td>
<td>September 2nd week - First external Review by Ar. Udhay Rajan</td>
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<tr>
<td></td>
<td>September last week - Second external Review by Ar. Udaya Vauhini</td>
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<tr>
<td></td>
<td>September 12th - Video presentation &quot;Battle against Drought&quot;</td>
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<td></td>
<td>September 13th - Thesis presentation by Ar. Oviya Elango</td>
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<td></td>
<td>September 23rd - Thesis Presentation by Ar. Vishesh Shanker</td>
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<td></td>
<td>September 24th - Thesis Presentation by Ar. Viswanathan and Ar. Ajay Manjunath</td>
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<tr>
<td><strong>October</strong></td>
<td>Final Year Urban Design Studio - DESIGN</td>
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<tr>
<td></td>
<td>Design Presentation</td>
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<td></td>
<td><strong>EVENTS</strong></td>
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<td></td>
<td>Night Studios for Design presentation workshops.</td>
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<td></td>
<td>October 1st week - Final Review by Ar. Karthikeyan from Webe Design lab.</td>
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<tr>
<td><strong>November - December</strong></td>
<td>India Tech Competition project - ULTRA TECH CEMENT</td>
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<td></td>
<td>Buckingham Canal Project as competition entry</td>
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<tr>
<td></td>
<td><strong>EVENTS</strong></td>
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<tr>
<td></td>
<td>Shortlisted as the regional level winner for the project, awaiting final result.</td>
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</table>
The Buckingham Canal Project

The canal, also known as the Coleroon Canal, was built from North Madras to Puthukudi from 1822 to 1832. It is a part of a larger water network for food water communication and was designed for about 11 miles.

The canal was extended from Papanasam to Pether and Sudarsanem.

- In 1837 the canal was undertaken by a different project.
- The first lock was built in 1851 at Godapet near Madras, which no longer exists.
- A new canal was excavated from Adyar river to Papanasam and further south.

This canal connects with Krishnapatnam Port, which is located in the Kolar plains from where goods can be transported.

MAP SHOWING MAJOR ISSUES ALONG THE BUCKINGHAM CANAL

MAJOR ISSUES
SEWAGE DISPOSAL
ENCROACEMENT ALONG THE CANAL LINE
ACCESSIBILITY
ACCESSIBLE
INACCESSIBLE
ROADS
SLUMS

TIMELINE

1806 1817 1822 1832

HISTORY
Final Year Urban Design Studio at Craveyard Cafe

21st June to 30th June - One week preliminary workshop on mapping along the kotturpuram and adyar stretch of Buckingham Canal.

July 4th - Craveyard Cafe studio inaugurated
URBAN DESIGN PROGRAM
FINAL YEAR STUDENT SHEETS

ARUN & SINDHUJA
RECLAIMING THE KODUNGIYUR DUMPPYARD

KODUNGIYUR DUMPPYARD
296 ACRES OF DUMPPYARD
KODUNGIYUR IS AN EXTREMELY SENSITIVE AREA.
The DUMPPYARD IS THE LARGEST DUMPPYARD IN CHENNAI CITY.

INTRODUCTION
The KODUNGIYUR DUMPPYARD is one of the largest and largest in Chennai, situated in the sensitive area of Kodungaiyur. This student project aims to transform this dumpsite into a green oasis for the community. The project focuses on the following issues:

- **Air pollution**
- **Water pollution**
- **Landfill contamination**
- **Habitat loss**

The project proposes the transformation of the dumpyard into a green space, creating a sustainable and livable community for the residents.

HISTORY
The KODUNGIYUR DUMPPYARD has been operational since the early 1980s, with an increase in waste influx over the years. The area has been identified as an environmentally sensitive zone due to its location near residential areas.

CURRENT STATUS
The current status of the KODUNGIYUR DUMPPYARD is characterized by overcrowding, improper waste management, and lack of green spaces. The project aims to address these issues and create a sustainable and livable environment.

SITE CONCEPT
The site concept is based on a proposed green belt around the dumpyard, connecting it to the surrounding neighborhoods. This green belt will act as a buffer zone, improving the overall aesthetics and quality of life.

ACCESSIBILITY
Accessibility to the site is crucial for the success of the project. The proposed green belt will provide easy access to the site, enhancing connectivity and promoting sustainable transportation.

IDEAS AND CONCEPT
The project proposes the following ideas and concepts:

- **Recycling of waste**
- **Recreation area**
- **Green Belt**

CASE STUDIES
- **GARBAGE TO GOLD**
- **MUDYTA RECYCLING PARK**

PETITION FROM THE RESIDENT PEOPLE
The project has received support from the residents, and a petition has been submitted to the authorities for the approval of the project.

ISSUE
The KODUNGIYUR DUMPPYARD is a significant issue for the community, posing a threat to the environment and public health.

AIM
The aim of this project is to transform the dumpyard into a green oasis, providing a sustainable and livable environment for the community.

OBJECTIVES
- **Improvement of waste management and recycling**
- **Creation of green spaces**
- **Enhancement of public health**
- **Rehabilitation of the community**

ALTERNATE PRODUCTS FROM WASTE
The project proposes the following alternate products from waste:

- **Compost**
- **Fertilizer**
- **Biofuel**

SOURCE'S
- **Images, Information, Data, Pics**

TANJORE WASTE MANAGEMENT PROJECT
This project is inspired by the TANJORE WASTE MANAGEMENT PROJECT, which has successfully transformed waste into valuable resources.

THE HISTORY OF KODUNGIYUR DUMPPYARD

KODUNGIYUR DUMPPYARD

CHENNAI

SITE PHOTOS

EVOLUTION

URBAN DESIGN: BUCKINGHAM CAMEL
DUMPPYARD RECLAMATION

SINDHUJA 11352251017
ARUN 11352251002
DUMPYARD RECLAMATION

300 ACRES

5 ACRES

60% ORGANIC

40% INORGANIC

72 cm x 50 cm

Descarbonate of organic waste adds

Junction phase

6272 tons of garbage

EFFECTIVE MICROBES

Exponential to slow down the decomposition of organic waste and make quick progress

HERMITAGE EXTRATION

After decomposition of organic waste feeding it to a landfill and part is incinerated and the remaining part is removed by means of leaching

1.6 ACRES

40% ORGANIC

4 ACRES

10% ORGANIC

2508.8 tons of waste

This gas is also beneficial for agriculture

BIO-MAGIC GAS

This water can be further used as a water pollutant by using biochemical treatments

3% of garbage is enough to make a 30 m diameter hollow

752.64 tons of waste

THE PRIMARY ISSUE IS HOW TO SOLVE IT. AN INNOVATIVE THINKING CAN removeFrom THE RECLAMATION PROCESS.

THE RECLAMATION OF DUMPYARD WILL BE SHOWN TO PROMOTE THE ECOLOGICAL AND ECONOMIC STANDARDS AND SITUATION.
REDESIGNING THE SUM SETTLEMENTS, KANNAGI NAGAR

VANI & MONICA
UMA MAHESHWARI

REDESIGNING THE SUM SETTLEMENTS, MYLAPORE
BUCKINGHAM CANAL - DESIGN PROPOSAL
SLUM REDEVELOPMENT

CURRENT SCENARIO OF THE SLUM

PROPOSED SCENARIO OF THE SLUM

CONCEPTUAL VIEW

PROPOSED SECTION

1. Streetscape and Edge condition of the Canal.

2. Edge condition of the Canal.

LEGENDS
- LIVING
- BEDROOM
- KITCHEN
- TOILET

SECTION @ MANDAVU/IRMS STATION

SECTION NEAR GREEINGS ROAD
Audit of Chennai Waterways – A Citizen’s Report

Is Chennai ready to face the upcoming monsoon?

August 2016

140A, Rukmini Lalshnpathy Salai, Egmore, Chennai – 600008
contact@arrappor.org www.arrappor.org www.facebook.com/Arrappor
Ph: 9840994790/ 9019486994

Acknowledgements

Arrappor Iyakkam and Magasool would like to thank all the volunteers who contributed in the research and study of waterways. We would like to thank Prof. G. Vigneswaran of IIT Madras for his contribution in the research of waterways. We would also like to thank the Government of Tamil Nadu for their contribution in waterways. We would like to thank the citizens of Chennai for their contribution in waterways.

We would like to thank the members of Magasool, style, and collection who have spent hours working on the research and audit for the report. We would also like to thank the people of Chennai for their help and support in the compilation of the report.

Our thanks to the officials from the Chennai Zilla Parishad, Chennai Corporation, and Chennai Metro for their participation in the audit and their help in understanding the conditions they faced during the floods.
July 12th - A Skype video call with Vedithum Siddharth on walking along Ganga.
ECOLOGICAL URBANISM
A DIALOGUE ON ECOLOGY AND URBANISM

20th AUG

ecology + urbanism

A talk show event about ecological urbanism and how future development process should put ecology in the front seat.

Venue: Alumni Club, Anna University
Time: 5 pm to 8 pm

How to balance the ecosystem of the city?
Nature, people and building
Hita Unnikrishnan
Ashoka Trust for Research in Ecology and the Environment
Author, Nature of Cities

The Buckingham Canal
Karen Coelho
Madras Institute of Development Studies (MIDS), Chennai

Ground Realities from Social Audit
Jayaram
Anappor Iyakkam

Community participation in developing sustainable cities
Vidhya Mohan Kumar
Urban Design Collective

Restoring a lost livelihood
Sakthinathan
Dean, Anna University, Chennai

Stories from ‘Moving Upstream’
Siddharth Aggarwal
Vidyum

RVS
INDIAMACH V SCHOOL OF ENGINEERING AND TECHNOLOGY
Zone #01

The character of this zone, is majorly transit oriented and industrial in nature with the Central station and Thermal plant among others, in consideration.
This zone is closest to the sea and gives a view of the Bay of Bengal. Most of the heritage structures abuts this zone. Majorly Heritage is the character of this stretch.

Majorly residential, this stretch houses the maximum number of slums. Thus, Urban housing patterns becomes the character of this zone.
Zone #04

This whole stretch is less inhabited and has major ecological zones like Pallikaranai marshland. Thus, the character of this zone is ecological in nature.
Video presentation
“Battle against Drought”
URBAN COASTAL REFORM
at Kasimedu

by VISUWANATHAN

RE-INTERPRETING SLUMS

by AJAY

AKKAM VATTAM REHABILITATION
Reclaiming urban space and customary rights

by VISHESH SHANKER

CRAVEYARD CAFE, Gandhi Nagar | 24rd September, Saturday

CRAVEYARD CAFE, Gandhi Nagar | 23rd September, Friday
In the next leg of the research studio, few of the students were encouraged to take micro-projects along the canal where a particular site was selected along the canal and after an in-depth study, solutions were formulated for the same. These micro projects are the interventions that would help in rejuvenating the canal to its glory.

Reclaiming Kodungayur dump yard

Urban Aviary

Restoring livelihoods at Ennaree creek
CONCEPT & IDEOLOGY

WASTE + PEOPLE FLOW = COMMITTING PEOPLE WITH TRASH

PUBLIC ACTIVITY + LANDSCAPE = CONNECTING INDUSTRY WITH GREEN

REDUCTION OF WASTE

Waste on site was reduced by incinerator - combustion of waste.

The Incinerator (Air 8000hp) have a capacity to incinerate about 8.5ton/hr, about 210 ton /day. It is place above the 45° tall dump.

NASH EQUILIBRIUM

A stable state of a system involving the interaction of different participants, in which no participant can gain by a unilateral change of strategy if the strategies of the others remain unchanged. Waste is incinerated in an even and geometric pattern to avoid conflict in programme method.

LANDSCAPE

The space under the platform is utilised for another structure.
URBAN NEIGHBOURHOODS

Design with the communities rather than without them

The second urban design studio was themed on understanding the relationship of the urban commons, the people and their connect with ecology. The community interacts in different levels and the concept of social justice, spatial justice and ecological justice were explored.
The figure and ground analysis enables the understanding of the built forms and open spaces as a whole. Sholinganallur being located in the IT Corridor experiences rapid urban sprawl due to increased population as a result of which the marshlands tend to get encroached and lose their character.

**Design Ideology**

Native wetland plantations have been incorporated which acts as a breeding space for aquatic life.

Having documented the Urbi scape of Sholinganallur, we could figure out the rapid urbanisation and improper settlement planning. The rapid growth of Sholinganallur’s economy, population and infrastructure can be attributed to Information Technology business Parks and dedicated Special Economic Zones (SEZ). As institutions and IT sectors grow, residential slots grow and occupy the land.

December 2015 floods were studied and mapped to understand the edge conditions along the canal. The spill over was due to the bottleneck of the Oddiyam maduvu which drains the freshwater from Pallikaranai marshland directly into the canal and causes flooding in the neighbourhood.

**PROPOSED MASTERPLAN - REVITALIZATION OF THE CANAL**

- Integrated Mangrove & aqua farming centre
- PARKING
- ADMINISTRATION
- TERRACED BIOSWALE
- STORMWATER RETENTION POND
- INTERPRETATION ZONE
- BIRD OBSERVATION TOWER
- BIRD DECK
- MANGROVE ZONE
- HEDGES
- BIRDS ZONE

Conservation is the wise act rather than designing an impervious layer and making the canal even more vulnerable to urban layers and thus preventing the urban sprawl. Mangroves acts as barriers and prevents soil erosion and ensures aquatic life and helps to retain bird life and encourages breeding of birds along the canal.
THESIS 2017-2018

#NIASA ENTRIES

In the second thesis batch we had some very innovative thesis ideas. Among the varied nature of thesis topics, two stood out distinctively and were sent to Niasa the Annual Thesis Award Jury conducted by COA. Mageshwar and Akshaya were shortlisted in the south zone candidates and Mageshwar was again selected for the National Niasa in Top 10.

HO(US)E/HOME
An Incremental Housing Intervention for Better Living
Mageshwar

NITHAM NESAVU
Weaving Village in Kanchipuram
R Akshaya
The third urban design studio was themed on understanding the relationship of the urban peripheries with the city. The Kosasthalaiyar River was studied to understand the relationship the city and its resources has with respect to its peripheries.
2018

**JULY**

- Preliminary Survey and UD Studio Design
  - 6th July - Recce Walk
  - 14th and 15th July - Student recce walk
  - 16th July - Manohar Sir Talk on Kosasthalaiyar River
  - 17th July - Sudhir Sir Talk on Kosasthalaiyar River

- Final Year Urban Design Studio - STUDY

**EVENTS**

- 16th and 17th - Urban thinkers Workshop/Conference with Students in Anna University
- 28th and 29th August (early morning) - TOXIC WALK in Ennore with Nityananda Jayaram Team - Sarvanan and Pooja.
- 29th August (afternoon) - Talk by Nityanand Jayaram on Ennore Creek and dangers in polluting it.

**AUGUST**

- Final Year Urban Design Studio - STUDY

**EVENTS**

- 16th and 17th - Urban thinkers Workshop/Conference with Students in Anna University
- 28th and 29th August (early morning) - TOXIC WALK in Ennore with Nityananda Jayaram Team - Sarvanan and Pooja.
- 29th August (afternoon) - Talk by Nityanand Jayaram on Ennore Creek and dangers in polluting it.

**SEPTEMBER**

- 17th - Mahindra World City Tourv

- Final Year Urban Design Studio - STUDY

**EVENTS**

- Study and Analysis

**OCTOBER**

- Final Year Urban Design Studio - DESIGN

**EVENTS**

- Design Presentation
- PROFESSIONAL PRACTICE AND ETHICS ASSIGNMENT
  - TO FIND PATENTS
  - TO FIND NON ARCHITECTS PRACTICING ARCHITECTURE
- CONSTRUCTION TECHNOLOGY SITE VISIT

---

**KOSASTHALAIYAR, THE VANISHING RIVER**
Mr. Manohar is a sort after employee of the state and an activist, fighting and mapping the sub-urban and rural stories of the farmers and under privileged. He has been collecting the stories of Kosasthalaiyar River and its depletion for years now. As a citizen of utmost social responsibility he has shown great interest in talking to the students of architecture. He considers our youth especially in the field of architecture to creatively solve issues of the modern times.

M A N O H A R

JULY 16 '18
RVS
MONDAY
10:00 A.M. - 04.00 P.M

SCHOOL OF CHANGE

RVS PADMAVATHY
SCHOOL OF ARCHITECTURE

SAPNA TRADE CENTRE,
9th Floor, Egmore
+91 - 9655914631
URBAN DESIGN PROGRAM
TOXIC WALK : ENNORE

EVENTS
An engineer, journalist and now an activist, Nityanand Jayaraman has travelled and worked across the globe but it is doing his bit for the environment that he holds closest to his heart. Nityanand is a writer and a researcher based in Chennai. He investigates and reports on corporate abuses of environment and human rights, and is part of an anti-corporate collective called VETTIVER KOOTTA MAIPPU (COLLECTIVE)

NITYANAND JAYARAMAN

AUGUST 29 '18 RVS
WEDNESDAY 10.30A.M - 12.30P.M SCHOOL OF CHANGE
URBAN DESIGN PROGRAM

MAHINDRA WORLD CITY TOUR: CURRENT TRENDS OF COMMUNITY
URBAN DESIGN PROGRAM
MODEL MAKING EXERCISE: HUMAN SETTLEMENTS AND URBAN DESIGN THEORY

EVENTS