National Institute of Urban Affairs

Smart City
MISSION TRANSFORM-NATION

Ministry of Housing and Urban Affairs
Government of India

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Vibrant Public Spaces

50+ Water & Parkscapes from India's Smart Cities Mission

Ministry of Housing and Urban Affairs
Government of India

The Ministry of Housing and Urban Affairs (MoHUA), established in 1952, is the apex authority of the Government of India at the national level responsible for formulating policies, sponsoring and supporting programs, coordinating the activities of various central ministries, state governments, and other nodal authorities, and monitoring initiatives related to housing and urban development across the country. MoHUA oversees a wide range of national missions and programs, including the Smart Cities Mission (2015), Swachh Bharat Mission - Urban (2014), Atal Mission for Rejuvenation and Urban Transformation (AMRUT) (2015), Pradhan Mantri Awas Yojana - Urban (PMAY-U) (2015), National Urban Livelihoods Mission (NULM) (2013), PM Street Vendor's AtmaNirbhar Nidhi (PMSVANidhi) (2020), and initiatives related to Urban Transport.

Smart City
MISSION TRANSFORM-NATION

Smart Cities Mission was launched in 2015 by the Ministry of Housing and Urban Affairs (MoHUA), the apex authority of the Government of India. The main objective of the Mission is to promote cities that provide core infrastructure, clean and sustainable environment and give a decent quality of life to their citizens through the application of 'smart solutions'. The Mission aims to drive economic growth and improve quality of life through comprehensive work on social, economic, physical and institutional pillars of the city.

National Institute of Urban Affairs

Founded in 1979, the National Institute of Urban Affairs (NIUA) is a national think tank on urban planning and development. It works closely with the Ministry of Housing and Urban Affairs, alongside other government and civil sectors, to identify key areas of research, provides cross disciplinary expertise and technical assistance for city and state-level projects, as well as develops toolkits and customised training programmes to strengthen the capacity of local and regional governing agencies. The organisation is the first port of call for international donors and institutions seeking to develop meaningful partnerships in the country.

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The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has been operating in India for over 60 years. In 2022, India and Germany signed the Green and Sustainable Development Partnership and made a commitment to achieving the goals of the 2030 Agenda and the Paris Agreement. One of the focus areas for GIZ in India is to work for sustainable urban and industrial development by supporting the development of clean, inclusive, green and resilient urban and industrial areas. There is also a focus on integrated river basin management in the country.

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50+ Water & Parkscapes from India's Smart Cities Mission

PUBLISHED IN APRIL 2025
By Smart Cities Mission, Ministry of Housing and Urban Affairs, Nirman Bhawan, Dr. Maulana Azad Road, New Delhi-110011, India

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Indore	Roopal Chopra
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Madurai	T.Santhanam
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PCMC	Bapusaheb Gaikwad
Raipur	Neha Patel
Rajkot	Y.K. Goswami
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Salem	S. Senthil Kumar
Shivamogga	M Krishnappa
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Tirupati	Balaji Thakur
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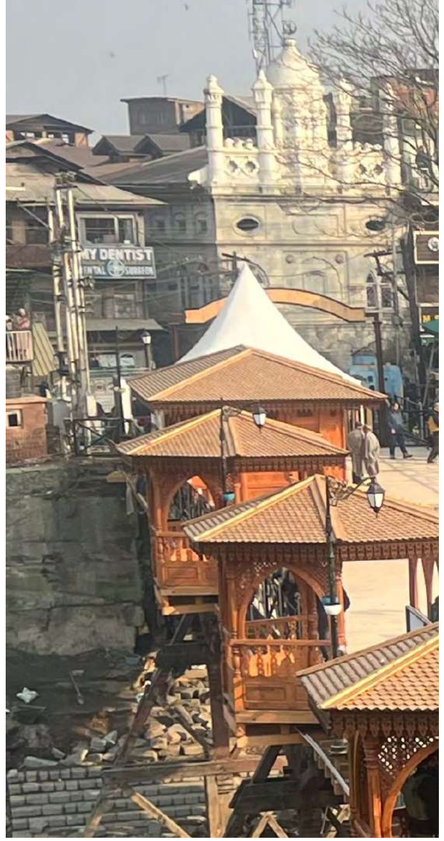
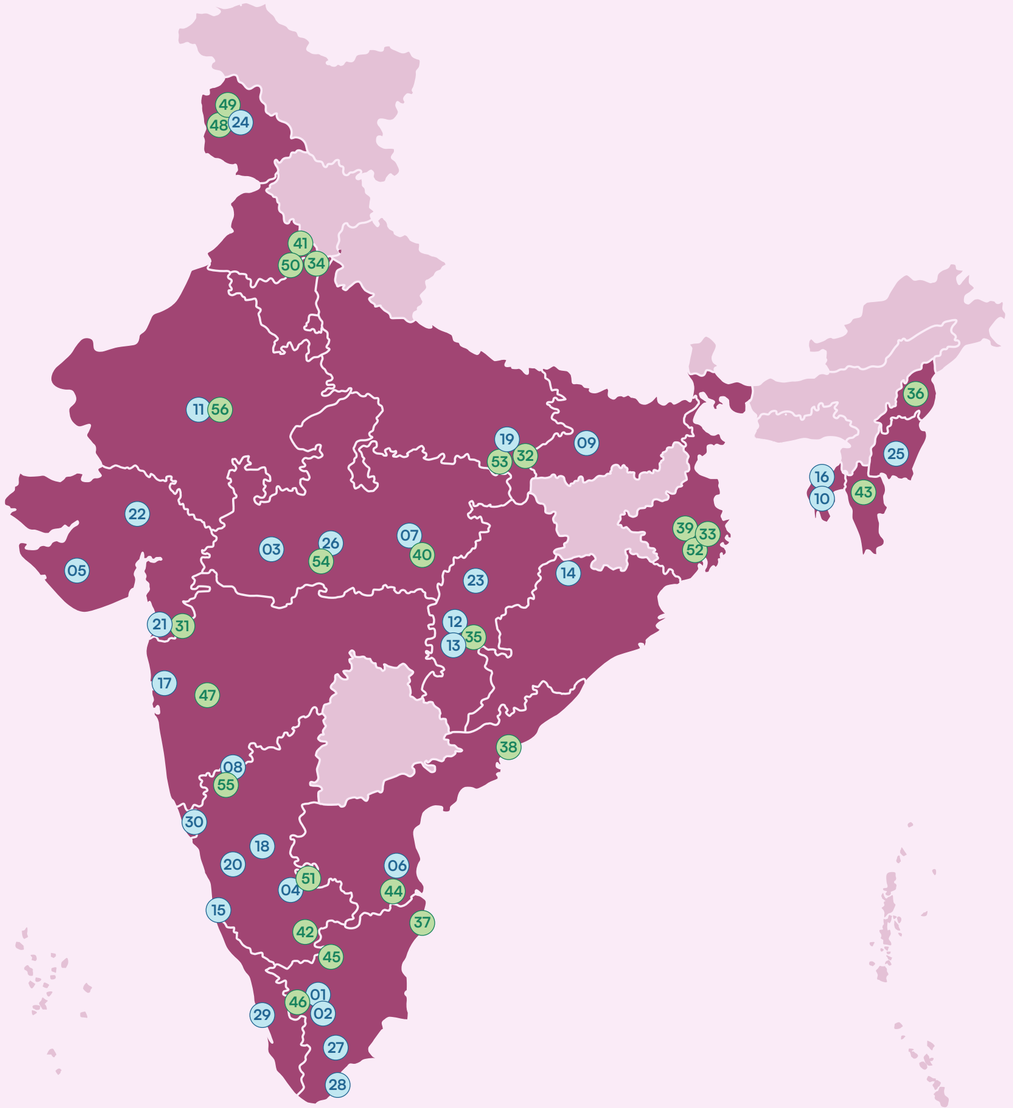


We thank all the municipal commissioners, smart city CEOs and team members, convergence agencies and departments, partner organisations for planning, design, project management, execution, and local civil society groups for their contribution to the projects and sharing the knowledge with us. We also thank fellow professionals and friends for sharing their feedback on these transformed vibrant public spaces.

Table of Contents

Waterscapes

Parkscapes



Forewords

Shri Manohar Lal

Hon'ble Minister,
Ministry of Housing and Urban Affairs
& Ministry of Power

मनोहर लाल
MANOHAR LAL

आवासन और शहरी कार्य मंत्री एवं
विद्युत मंत्री
भारत सरकार
Minister of
Housing and Urban Affairs; and
Minister of Power
Government of India

Foreword

World Bank estimated that India's cities require an estimated capital investment of USD 840 billion in urban infrastructure and municipal services in the 15 years till 2036 (in 2020 prices), equivalent to 1.18% of estimated Gross Domestic Product (GDP) over this period. This presents us with an unparalleled opportunity to reimagine infrastructure itself such that it promotes socio-economic and environmental resilience. Our lakes, rivers, parks, and streets must be designed and managed such that they alleviate water stress, reduce flooding, provide cooling, improve air quality, expand habitats for biodiversity, and foster human connections. To achieve this, we need not only greater private sector financing, including municipal borrowings and PPPs, but also technical expertise, skillful execution, and effective management models.

The compendium, *'Vibrant Public Spaces: 50+ Water & Parkscapes from India's Smart Cities Mission'*, showcases projects that integrate ecological and human needs - foundational to creating cities that are resilient, healthy, and liveable. The restoration of seven lakes in Coimbatore is planned for basin-level water management using natural water treatment methods. The precinct development of Mahakal Mahalok Temple in Ujjain boosts local livelihoods and tourist footfalls. The riverfronts in Srinagar and Imphal use naturalised edges and materials to minimise cost and carbon footprint, while Surat Biodiversity Park and Chandigarh Bird Park help citizens learn about local flora and fauna. Pimpri Chinchwad and Varanasi used the underside of flyovers for neighbourhood sports facilities and street vending, addressing functional needs with creativity.

This publication invites us to reflect on how well-designed public spaces can simultaneously address environmental challenges, nurture social connections, and catalyse economic opportunities. However, creating such spaces is just the beginning - the true measure of success lies in their quality of implementation, durability, and financial sustainability over time. As we continue this journey, I urge all stakeholders government bodies, private entities, and citizens to share responsibility for nurturing these urban assets, ensuring their vitality for generations to come.

(Manohar Lal)

New Delhi
26.03.2025

Shri Tokhan Sahu

Hon'ble Minister of State,
Ministry of Housing and Urban Affairs

तोखन साहू
TOKHAN SAHU

आवासन और शहरी कार्य राज्य मंत्री
भारत सरकार
Minister of State for Housing & Urban Affairs
Government of India

MESSAGE

As India's urban landscape evolves, smaller cities and towns are experiencing rapid growth, significantly contributing to the nation's urbanization. Notably, over half of India's urban population resides in towns with fewer than 500,000 inhabitants. This demographic shift underscores the pivotal role these emerging urban centers play in shaping the country's future. Recognizing this, the Smart Cities Mission has inclusively targeted 100 cities, encompassing 66 smaller cities with less than 1 million population. These cities, rich in history and culture, face critical challenges in managing water bodies, green spaces, and urban ecosystems. Ensuring that urban growth does not come at the cost of environmental degradation is key to their long-term resilience.

'*Vibrant Public Spaces: 50+ Water & Parkscapes from India's Smart Cities Mission'*, includes commendable initiatives from these burgeoning cities. For instance, the rejuvenation of the Ranir Pukur lake in Agartala has restored a vital water body and created a communal space for residents. Similarly, Ajmer's efforts in revitalising its historic Anasagar Lake have enhanced tourism and improved local livelihoods. In Raipur, the Nalanda Parisar provides students and competitive exam aspirants a 24/7 conducive learning environment equipped with modern technology, sustainable design, and innovative amenities. Belgavi's Mahila Market has become a food hub, promoting women entrepreneurs. These examples highlight the potential of smaller cities to innovate and address urban challenges effectively.

As we advance, it is imperative to integrate traditional methods of preserving water bodies and promoting biodiversity into modern urban planning. Historically, indigenous practices have sustainably managed natural resources, and revisiting these can offer valuable insights for contemporary challenges. By embracing such holistic approaches, our smaller cities can ensure that urban expansion harmoniously coexists with ecological preservation, paving the way for a resilient and inclusive urban future.

(Tokhan Sahu)

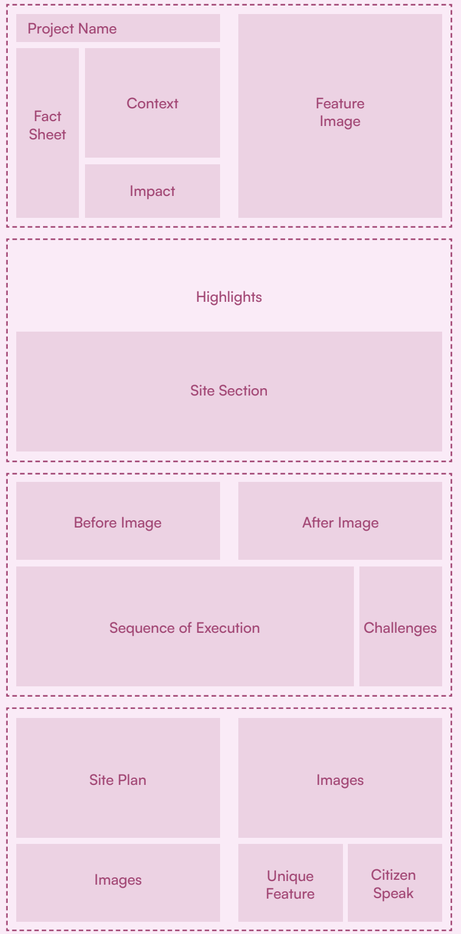
New Delhi.
March, 2025

Periyakulum Lake, Coimbatore

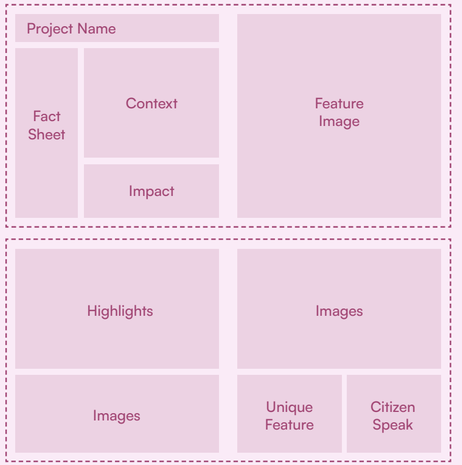
How to Read **the Chapters**

*Note: All costs mentioned in USD in the chapters, used the conversion rate of 1 USD = INR 87

30 Deep Dives



26 Glimpses



SECTION	DEEP DIVES	GLIMPSES
Factsheet	●	●
Context & Impact	●	●
Feature Image	●	●
Highlights	●	●
Site Section	●	
Before & After Images	●	
Sequence of Execution	●	
Challenges & Resolutions	●	
Site Plan	●	
Unique Feature	●	●
Citizen Speak	●	●
Images	●	●

Cubbon Park, Bengaluru

About the Compendium

The compendium serves as a repository of over 50 transformative projects implemented under India's Smart Cities Mission. This collection showcases a diverse range of public realm enhancements aimed at redefining the quality of life in Indian cities. The compendium categorizes these projects into two broad sections: Waterscapes and Parkscapes.

The Waterscapes section highlights the rejuvenation and development of waterfronts, including ponds, lakes, rivers, and sea coasts. The Parkscapes section showcases public parks, sports facilities, biodiversity conservation areas, under-flyover or underpass developments, and market plazas. Transformations covered here capture project overview, execution details, unique features, challenges, and resolutions.

The primary objective of this compendium is to document a breadth of projects and facilitate knowledge sharing to inspire future public realm developments. By capturing successes and limitations, it offers valuable insights for policymakers, implementors, advocacy organisations, investors, and supporting professionals to support the creation of future cities that are more liveable, are environmentally sustainable, and economically prosperous.

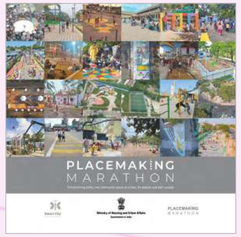
The compendium includes

56 Vibrant Public Space Projects

30 Waterscape Projects
18 Deep Dives I 12 Glimpses

26 Parkscape Projects
12 Deep Dives I 14 Glimpses

This compendium is part of a series of three knowledge products on public spaces developed under the Smart Cities Mission and can be downloaded on the mission website: https://smartcities.gov.in/documents



Transformed Public Spaces

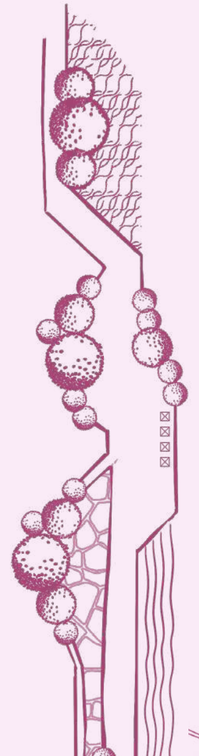
Meera and Ashok in their late 20s juggled hectic jobs and a family of four in a chaotic city, and faced frequent health issues.

With unsafe and exhausting streets, Rajesh and Suman, in their 70s, seldom left their apartment premises.

Harpreet, a teenage sports enthusiast, turned to digital screens, discouraged by the lack of playgrounds nearby.

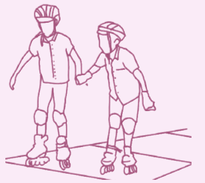
Visitors preferring air-conditioned malls during summers left Kumar's tea stall outside the central park with dwindling customers.

Isha's late evening walks back home from her tuitions through the dimly lit stretch under the flyover worried her parents as it had little foot traffic.



The family now prioritises their physical well being, attending outdoor yoga while the kids play at the new riverfront park.

The elderly couple rediscover the joy of leisurely strolls, joining their neighbourhood social group in their new neighbourhood park.



Harpreet hones skateboarding skills at the new sport centre. She learns tricks online and practices them with her newfound friends.

The revitalised park and streetscape invites a lively evening 'adda' at Kumar's tea corner, encouraging him to open two new stalls.

Rejuvenated with food stalls, amphitheatre and Wifi enabled workspaces, Isha often stops along this stretch to grab a snack and enjoy the karaoke gigs.

DOs

Lessons from what the projects did well

01

Go beyond beautification and respond to people's unique needs; it will win the hearts of citizens

Projects like sports facilities under Jagtap Dairy Flyover for neighbourhood youth in Pimpri Chinchwad, basement parking under Beniyabah Park in Varanasi to relieve congestion, designated kunds in lakes for chatt puja, or wheelchair-accessible beach in Toothakodi - have all gone beyond beautification and improved functionality for specific user needs. Practical, need-based interventions can not only solve local problems but also build trust and satisfaction among citizens. Further, essential features like restrooms, seating, lighting, and waste disposal are non-negotiable for usability and inclusivity. Overlooking these basics can render even aesthetically pleasing spaces underutilised and ineffective.

02

Signature public spaces attract tourists, boosting the city's economy

City-level public spaces that build on unique socio-ecological culture and heritage can attract visitors or make them stay longer in the city, increasing tourist spending and boosting the local economy. The cluster of public space projects in Srinagar, like Polo View Street, Lal Chowk, Jhelum Riverfront, and restored heritage footbridges have extended tourist stay in the city. Similarly, Rudrasagar as part of Mahakal Mahalok temple rejuvenation, has created a few thousand livelihoods and expanded the local hospitality and crafts industries; while Chappan Dukaan revitalisation has increased the footfall and shop incomes by over two folds.

03

Load O&M for a minimum 3-5 years within the contract of the construction agency/contractor, possibly with revenue sharing

Bundling O&M within construction contracts can improve cost predictability, ensure sustained quality, align maintenance with construction goals, and reduce financial burdens on public authorities. As in Atal Sarovar's 15-year revenue-sharing model, contractors can be incentivised to innovate and maintain public spaces sustainably. However, to get this right, ensure the contractor has O&M expertise or partner with specialists to set clear performance metrics and to allocate revenue for maintenance. But beware that revenue-sharing agreements push contractors to prioritize profit over public interest, potentially limiting access or over-commercializing the space.

04

Nature-based solutions and materials are more sustainable and cost-effective in the long-term

High-carbon materials like concrete and steel are often seen as straightforward choices, but they can significantly increase both construction and long-term maintenance costs. In contrast, nature based solutions such as in the 8-lakes projects of Coimbatore, Telibandha Talab in Jabalpur, and Adalatganj Lake in Patna, offer more sustainable and cost-effective alternatives by using bunds and native vegetation to filter pollutants naturally. Ecological alternatives, such as wetlands for sewage treatment, can also lower operational costs and environmental impact compared to energy-intensive STPs.

05

Keep your eye on preserving and expanding biodiversity

A key impact for water and parkscapes should be increasing the flora and fauna in the area. Several projects have created man-made bird islands in the waterbodies to attract and nest migratory birds and covered the stone pitching along the bunds with local grass and flowering species to provide habitat for small animals and pollinators.

DON'Ts

Lessons from what the projects could do better

01

Good designs are a first step, but don't take your eye off during execution

Projects often fall short of their potential due to poor workmanship and construction quality, non-compliance with design standards, unnecessary cost escalations, and fraudulent practices. These result in inferior material selection, poor paving, water stagnation/flooding, improper curb cuts, and installations of seating, play equipment, lighting etc. Ensuring regular site inspections, clear accountability, and active engagement with local stakeholders can significantly reduce these errors and lead to better public spaces.

02

Increased footfall is great, but don't forget to mitigate traffic and congestion impacts on surrounding residents

Successful projects with a sixfold increase in daily footfall like Rudrasagar within Mahakal Mahalok Temple Precinct, can drive residents away from the project areas, leaving them aggrieved by increased traffic, travel time, noise pollution, and competing for parking spaces up to 2-3 km from the project site. Depending on the scale, public transport, traffic re-routing, pedestrian safety, and parking plans for up to 2-5 km radius from project site should be part of the project scope.

03

Don't let newly completed projects face early decay due to long gaps between hiring of O&M agencies

The process of reassigning O&M agencies for projects after the conclusion of contract period is often time-consuming. The time loss in between can lead to neglect and lack of maintenance of these newly rejuvenated spaces. It is advisable to pre-empt the time taken for procurement and start early. In addition, introducing community engagement as seen in the Cubbon Park in Bangalore, that includes plantation drives and awareness programmes initiated by city residents, reduces the dependency on external agencies, especially in interim periods.

04

Revenue generation is key for project viability, but don't make an amusement park or musical laser fountain everywhere

While generating revenue is vital for sustaining public spaces, it is important to strike a balance between commercial and ecologically sensitive interventions. Over-reliance on commercial attractions such as amusement parks, water sports, musical laser shows, or food courts can disturb ecological habitats and biodiversity. Projects like the Chandigarh Bird Park, Panaji Mangrove Boardwalk, and Kankara Creek Biodiversity Park offer an alternative vision for public spaces. These spaces provide safe sanctuaries for birds, aquatic species, small animals, and more, while also fostering ecological awareness and education among citizens. Additionally, they offer naturalized spaces for both passive and active recreation.

05

Don't overlook community education and stewardship in maintaining public spaces

Public spaces can quickly fall into neglect if users are not aware of their value or role in upkeep. Without community education and involvement, issues like littering, vandalism, or misuse can arise. Awareness campaigns, guided tours, and local stewardship programs can encourage responsible use and long-term care, ensuring these spaces remain vibrant and well maintained.

Comparative Summary of Waterscapes (1/2)

BASIC INFORMATION										ISSUES							INTERVENTIONS						INTERVENTIONS							IMPACTS									
Sr No	PROJECT NAME	CITY	SCALE (Ha)	CAPEX (INR Cr)	NATURAL	ARTIFICIAL	PERENNIAL	SEASONAL	POLLUTION-LED REDUCED CAPACITY & WATER QUALITY	ENCROACHMENT-LED REDUCED CAPACITY & WATER QUALITY	FREQUENT FLOODING	SEASONAL DRYING	INVASIVE VEGETATION & SPECIES	BIODIVERSITY & HABITAT LOSS	POOR ACCESS & AMENITIES	SOLID WASTE MANAGEMENT	SEWAGE & STORMWATER NETWORK & TREATMENT PLANTS	DE-WEEDING & DESILTING	EDGE TREATMENT - SOFTSCAPE	EDGE TREATMENT - HARDSCAPE	WATER QUALITY IMPROVEMENT	PLANTATION & HABITAT CREATION	WALKING, RUNNING, & CYCLING	OTHER ACTIVE & PASSIVE RECREATION	REVENUE GENERATING ASSETS / SERVICES	TECHNOLOGY ENABLED MONITORING & MANAGEMENT	O&M BY GOVT	O&M BY PRIVATE AGENCY / THIRD PARTY	L* : INCREASED VISITOR FOOTFALL	L* : IMPROVED PUBLIC HEALTH & WELLBEING	L* : IMPROVED SOCIAL COHESION	E* : INCREASED INCOMES & JOBS	E* : INCREASED MUNICIPAL REVENUE	E* : COST SAVINGS USING GREEN TECHNOLOGIES	S* : REDUCED CARBON FOOTPRINT	S* : EXPANDED GREEN COVER & SPECIES	S* : IMPROVED QUALITY OF AIR / WATER / SOIL
LAKES/PONDS [18]																																						
1	Periyakulam Lake	Coimbatore	136	102					■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■		■											
2	People's Promenade	Coimbatore	1.6	22					■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■		■											
3	Rudrasagar Lake	Ujjain	47	15					■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■											
4	Amanikere Lake	Tumakuru	204	60					■	■		■	■	■		■	■	■	■	■	■	■	■	■	■	■		■											
5	Atal Sarovar	Rajkot	75	136					■			■			■	■	■			■	■	■	■	■	■	■		■											
6	Vinayak Sagar	Tirupati	20	58					■					■	■	■	■	■	■	■		■	■	■	■	■		■											
7	Gulauaa Taal	Jabalpur	4	2.2					■				■	■	■	■	■	■	■	■		■	■	■	■	■		■											
8	Kanbargi Lake	Belagavi	3	4.74	■		■		■		■		■		■	■	■	■	■	■	■	■	■	■	■	■		■											
9	Adalatganj Lake	Patna	1	13.41		■		■	■	■			■	■	■	■		■	■	■	■	■	■	■	■	■		■											
10	Ranir Pukur	Agartala	0.56	1.4	■		■		■	■			■		■	■		■	■	■	■	■	■	■		■	■	■	■										
11	Anasagar Lake	Ajmer	20.36	56		■		■	■	■		■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■										
12	Budha Talab	Raipur	30	28	■			■	■				■	■	■	■	■	■	■	■	■	■	■	■		■	■	■										
13	Telibandha Talab	Raipur	11.75	2.6		■		■	■					■	■	■	■	■	■	■	■	■	■	■		■		■	■									
14	DAV Pond	Rourkela	7.3	14		■		■	■	■			■		■	■	■	■	■	■	■	■	■	■	■	■	■	■										
15	Kavoor Lake	Mangaluru	3	8	■		■	■	■	■				■	■		■		■		■	■	■	■		■	■											

***Legend**

L : Livability
E : Economic-ability
S : Sustainability

Comparative Summary of Parkscapes (2/2)

BASIC INFORMATION							ISSUES									INTERVENTIONS										IMPACT									
Sr No	PROJECT NAME	CITY	SCALE (Ha)	CAPEX (INR Cr)	NEW CONSTRUCTION	UPGRADATION	TRAFFIC CONGESTION & PEDESTRIAN SAFETY	LACK OF PUBLIC SPACE IN VICINITY	LOW VISITOR FOOTFALL	WASTE DUMPING & INVASIVE VEGETATION	DILAPIDATED INFRASTRUCTURE & SERVICES	UNDERUTILIZED SPACE	AIR QUALITY, HEAT, FLOODING RISKS & NATURAL DISASTERS	BIODIVERSITY & HABITAT LOSS	VENDING PERMIT & EVICTION THREAT	VEHICULAR CIRCULATION & PARKING	WALKING, RUNNING, & CYCLING	OTHER ACTIVE & PASSIVE RECREATION	WATER BODY REJUVENATION	PLANTATION & HABITAT CREATION	DEDICATED VENDING ZONE	REVENUE GENERATING ASSETS / SERVICE	TECHNOLOGY ENABLED MONITORING & MANAGEMENT	O&M BY GOVT	O&M BY PRIVATE AGENCY / THIRD PARTY	L* : INCREASED VISITOR FOOTFALL	L* : IMPROVED PUBLIC HEALTH & WELLBEING	L* : IMPROVED SOCIAL COHESION	E* : INCREASED INCOMES & JOBS	E* : INCREASED MUNICIPAL REVENUE	E* : COST SAVINGS USING GREEN TECHNOLOGIES	S* : REDUCED CARBON FOOTPRINT	S* : EXPANDED GREEN COVER & SPECIES	S* : IMPROVED QUALITY OF AIR / WATER / SOIL
PLAZAS [7]																																		
16	Sungam Under Flyover	Coimbatore	1.82	21.84																														
17	Jagtap Flyover	PCMC	0.2	40																														
18	Lal Chowk	Srinagar	0.3	15																														
19	Old Habba Kadal	Srinagar	0.06	1.9																														
20	Rose Garden Underpass	Chandigarh	0.8	9.5																														
21	Banyan Tree Avenue	Tumakuru	0.3	0.62																														
22	Smart Plaza	NTK	0.4	0.23																														
VENDING BAZAARS [4]																																		
23	Lahartara Chowka Ghat	Varanasi	8.2	10																														
24	Chappan Dukan	Indore	0.4	5																														
25	Mahila Market	Belgavi	0.3	1.32																														
26	Masala Chowk Urban Haat	Ajmer	0.08	1.4																														

***Legend**

L : Livability
E : Economic-ability
S : Sustainability

Waterscape Projects

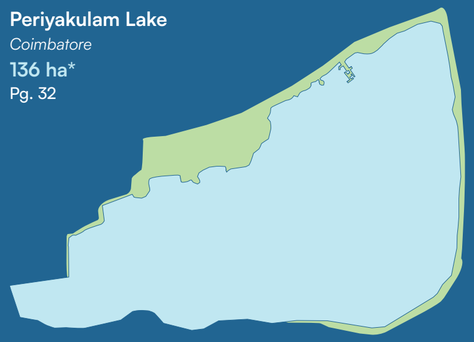
Waterscape projects under the Smart Cities Mission demonstrate a focused effort to clean water bodies and revitalize waterfronts, optimising their use for various purposes. These initiatives aimed to balance environmental conservation, recreational opportunities, and economic development, enhancing biodiversity while catering to local needs for active, healthy living.

Typically, these projects involved improving water quality and aquatic life and developing promenades, parks, cultural spaces, and commercial zones along riverbanks, lakeshores, or coastal areas. By emphasizing sustainable practices, many projects integrated water management with nature-based solutions to reduce costs, minimize the use of high-carbon materials, and build resilience against flooding, water stress, and heat island effects. Efforts in creating habitats for migratory birds and aquatic species increased the presence of flora and fauna. Technological innovations, such as smart lighting, Wi-Fi connectivity, and sensor-based monitoring systems, further enhanced user safety and improved the efficiency of managing these assets.

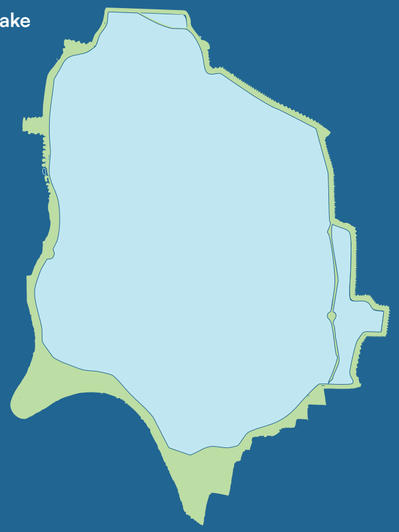
Typologies of projects include:

Lakes/Ponds | Rivers | Seas

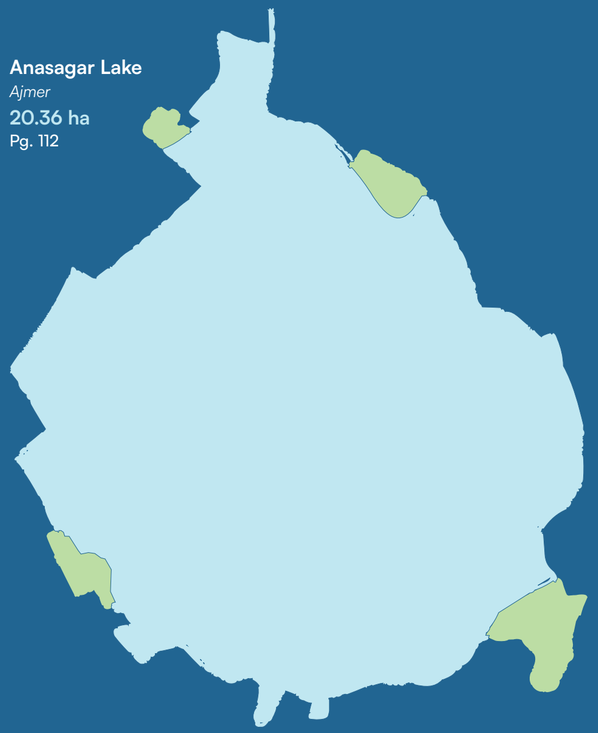
Periyakulam Lake
Coimbatore
136 ha*
Pg. 32



Amanikere Lake
Tumakuru
204 ha*
Pg. 56



Anasagar Lake
Ajmer
20.36 ha
Pg. 112



Adalatganj Lake
Patna
1 ha*
Pg. 96

Dimsagar
Agartala
0.9 ha*
Pg. 132

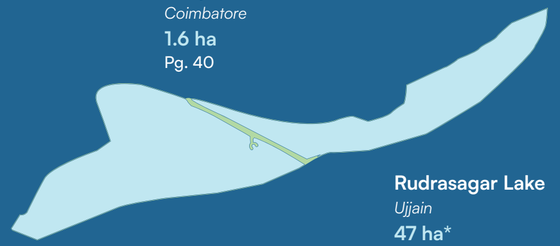
Kalyani
Davangere
0.1 ha*
Pg. 140

Ranir Pukur
Agartala
0.56 ha*
Pg. 104

Budha Talab
Raipur
30 ha*
Pg. 116

Vinayak Sagar
Tirupati
20 ha*
Pg. 72

People's Promenade
Coimbatore
1.6 ha
Pg. 40



Rudrasagar Lake
Ujjain
47 ha*
Pg. 48

Typology

LAKES/PONDS

Amid the city's hurried beat,
A pond reflects where lives retreat.

Stilled waters cradle dreams anew,
In crowded lanes, a tranquil view.

Urban hearts in their embrace,
Find nature's calm, a sacred space.

Scale of Development
Context

** Scale of development includes water body*

Telibandha Talab
Raipur
11.75 ha*
Pg. 120

Atal Sarovar
Rajkot
75 ha*
Pg. 64

Masunda Lake
Thane
0.48 ha
Pg. 136

DAV Pond
Rourkela
7.3 ha*
Pg. 124

Kavoor Lake
Mangaluru
3 ha*
Pg. 128

Kanbargi Lake
Belagavi
3 ha*
Pg. 88

Gulauaa Taal
Jabalpur
4 ha*
Pg. 80

The project area and context profiles are for representational puposes and may not be to scale

01 Periyakulam Lake

Coimbatore, Tamil Nadu

Typology

Lake/Pond River Sea

Scale of Development

136 Ha

Year of Completion

2020 (Phase I)
2023 (Phase II)

Cost

CapEX
INR 102 Cr | USD 11.72 Mil

OpEX
INR 1.2 Cr | USD 138,000 per annum

Revenue
No Information

Stakeholders

Nodal Authority
Coimbatore Smart City Ltd. (CSCL)

Funders
SCM-MoHUA & State Govt (50:50)

Implementing Partners
Coimbatore City Municipal Corporation (CCMC)

Design/Planning
Oasis Designs Inc., CDD India, SGS India Private Ltd.

Contractor
Ramesh Engineers and Contractor, Kadirvel & Co

Operation & Maintenance
Lion Services Ltd.

DEEP DIVE

Vision

To transform the edges of the historic Periyakulam Lake in Coimbatore into a vibrant public destination and restore the lake ecology through nature-based interventions.

Overview

Context : Coimbatore, the second largest city in Tamil Nadu, is often called the 'Manchester of South India' for its textile production and the 'Engineer's City' for its educational hub. It is located on the banks of the Noyyal River surrounded by the Western Ghats. During 8th and 9th centuries AD, the Chola Dynasty built an interconnected and cascading system of man-made lakes, wetlands, and channels that collected and stored rainwater from the surrounding hills for water supply and irrigation needs, before releasing it into the river. This rich and historic water management system also acted as a flood buffer for the region and helped recharge the groundwater table.

Issues : Once integral to the city's water management system, the lakes located in the core city were used for dumping garbage and debris. Wastewater from domestic and commercial establishments was discharged into the lakes, severely polluting the water. The lake bunds were used to build informal housing that lacked piped sanitation systems. The Periyakulum Lake (big lake), located in the heart of the city and close to the river, is part of this networked ecosystem. The acumulation of a high silt and garbage mounds along Periyakulam's north edge exacerbated environmental degradation and visually disconnected the lake from the neighbouring community.

Interventions : Coimbatore Smart City focused on revitalising and reviving the historic lake network by initiating the 'Eco-restoration Masterplan of 8 Lakes' and connecting them through walking and cycling-friendly greenways. The rejuvenation integrated ecological treatment of wastewater and naturalised edges with new public spaces. On Periyakulum's north edge (Phase I), piled-up silt was removed to create recreational opportunities along with a low-carbon mobility corridor. On its west edge (Phase II), a secondary wastewater treatment system using wetlands was built to treat wastewater from the treatment plant before it was released into the lake, along with the establishment of a 'Smart City Experience Centre' and other recreational facilities.

Impact

Liveability

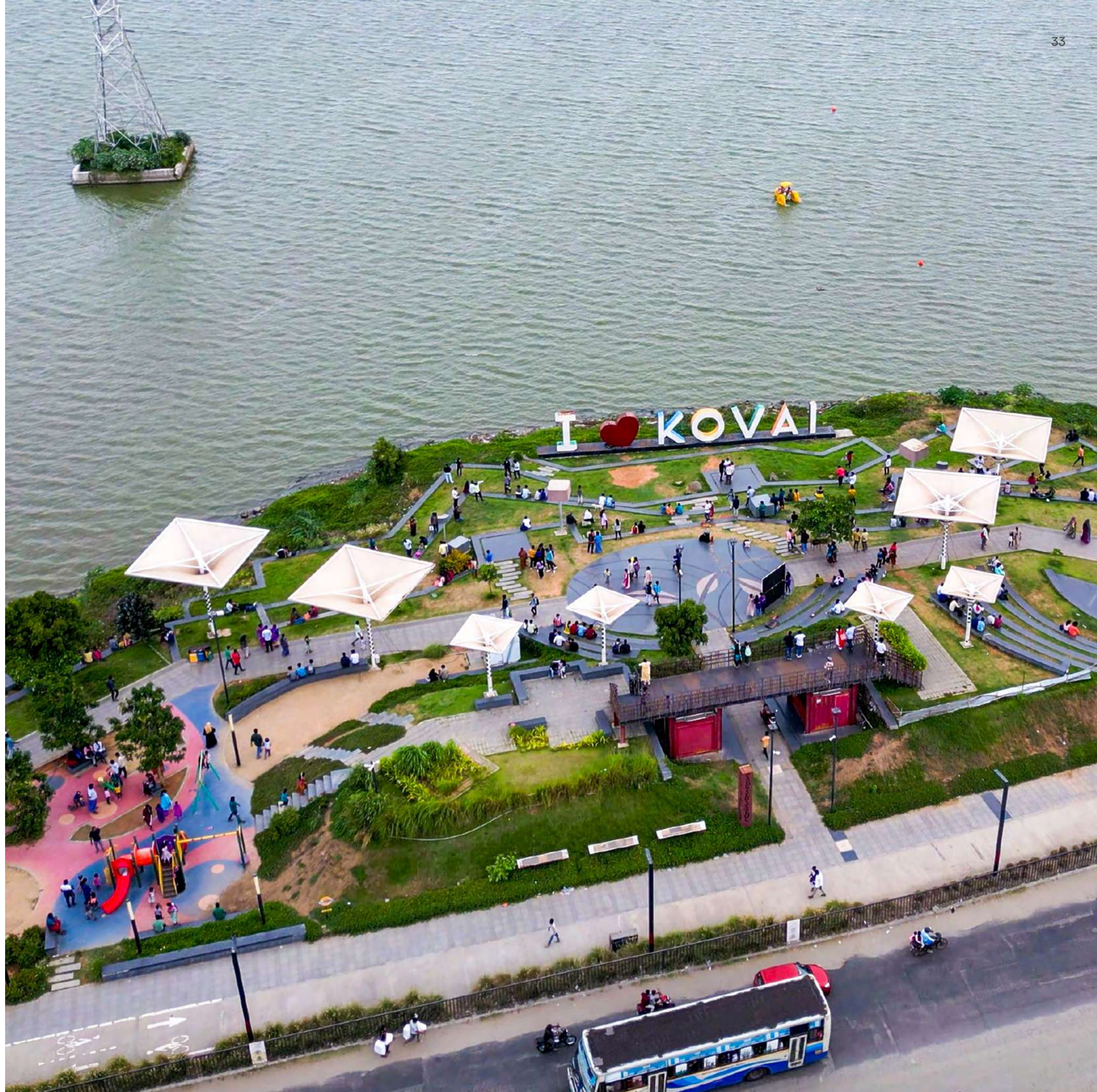
- 8 lakes increased public space from 2.17 sqm to 4.9 sqm per person
- Improved connection with lakes and reduced crime around lakes
- Increased opportunities for walking and cycling

Economic-ability

- 8 lakes increased tourist stay-time in Coimbatore, increasing spending on hotels, restaurants, and local shops
- Generated economic opportunities in maintenance, water sports, security, and vending
- Potentially increased real estate value around lakes

Sustainability

- Preserved historic water management and flood mitigation infrastructure
- Added 800 new trees and sequestered 160 tonnes of CO2 at Periyakulum
- Increased waders and grassland bird species, and several aquatic species



Project Highlights

North Edge, Periyakulam Lake, Coimbatore

01 Lake embankment at 1:2 slope and geo-grid mesh with native grass to stabilise the slope and prevent soil erosion

02 3.8 km greenway corridor for walking and cycling, with seating, cafes, toilets, parking, and signage at intervals

03 Floating pontoon jetties for access to water activities like jetski, aqua roller, aqua cycle, speed boat, and more

04 Vetiver floating wetlands by TNAU, with coir bedding to remove pollutants like nitrates, phosphates, and heavy metals from the water

05 Wetlands at major stormwater inlets to absorb excess nutrients and convert the pollution into leaf matter, periodically harvested and bio-composted *(not in illustration)*

06 Children's play area, multipurpose grounds, amphitheatre, ziplining, auditorium, open gyms, etc

Before

After

Sequence of **Execution**

Periyakulam Lake, Coimbatore

01 Water Treatment with Wetlands

- Diverted inlets as per the Sewage Treatment Masterplan to prevent untreated wastewater from entering the lake
- Designed and implemented stormwater management zones to capture and treat runoff before it reaches the lake
- Developed wetlands at major stormwater inlets to absorb excess nutrients, with periodic harvesting and bio-composting of wetland vegetation

02 Cleaning and Reinforcement of Bunds

- Removed silt and garbage mounds along the lake's north edge to stabilise the periphery
- Cleared plastic and other solid waste deposits from the lakebed to restore ecological balance

03 Slope Stabilisation

- Established a 1:2 slope along the lake embankment, using geo-grid mesh and native grass for stabilisation and soil erosion control
- Planted native vegetation in stratified layers to create active edges and habitat for varied species

04 Underground Services and Utility Setup

- Installed sub-terrain plumbing and electrical cabling to support infrastructure such as lighting, signage, and other amenities

05 Greenway Corridor and Public Amenities

- Developed a low-carbon greenway corridor for walking and cycling, integrating cafes, toilets, parking, and signage at intervals
- Created recreational spaces including a children's play area, open gyms, amphitheatre, multipurpose grounds, skating rink, and basketball court; and educational spaces like the Smart City Experience Center at western edge
- Installed lakefront amenities including seating, pavers, light poles, signage, and other features
- Constructed a floating jetty with pontoon structures to enable water activities like jet skiing and aqua cycling

Challenges & Resolutions

- **Native Species Integration**

  Promoted the use of native species over exotic and ornamental ones, educating contractors on their benefits for minimal maintenance and ecological balance.

- **Species Selection and Care**

  Climate-resilient plant species chosen based on site-specific analysis, with specialized care plans including watering schedules, pest management, monitoring, and seasonal maintenance.

- **Contingency Planning for Replantation**

  Prepared replantation plans to ensure continuous vegetation cover if initial growth is affected.

- **Soil Toxicity Management**

  Addressed soil toxicity with remedial measures such as bio-remediation, organic amendments, and periodic monitoring based on testing to ensure optimal plant growth.

Legend

1. Central Plaza
2. Open Air Theatre
3. Stambh
4. Floating Deck (with water sports)
5. Entrance Plaza
6. Vendor Plaza
7. Bus Stop
8. Cycle Track
9. Restaurant
10. On Street Parking
11. Kid's Play Area
12. Toilet Block

Site Plan

North Edge, Periyakulam Lake, Coimbatore

Unique Feature

The Coimbatore 8-Lakes project was a first-of-its-kind eco-restoration initiative at a city-wide scale, where nature-based solutions were prioritised at every step over high-carbon, hard infrastructure, setting high standards for this approach across India.

Citizen Speak

"We came for zip lining and other fun activities with our family to Periyakulum Lake, but we learned a lot about water management when the staff on site explained how wetlands were naturally treating the water in the lake. We also visited the north side of the lake, near I Love Kovai. My wife and I like to go for long walks there and stop in the small coffee stalls for refreshments."

02 People's Promenade

Coimbatore, Tamil Nadu

Typology
Lake/Pond River Sea

Scale of Development
1.6 Ha, 650 m

Year of Completion
2020

Cost
CapEX
INR 22 Cr | USD 2.5 Mil

OpEX
INR 34.6 Lakh | USD 40,000 per annum

Revenue
No Information

Stakeholders
Nodal Authority
Coimbatore Smart City Ltd. (CSCL)

Funders
SCM-MoHUA & State Govt (50:50)

Implementing Partners
Coimbatore City Municipal Corporation (CCMC)

Design/Planning
Oasis Designs Inc., CDD India, SGS India Private Ltd.

Contractor
KCP Infra Ltd.

Operation & Maintenance
VGF, Lion Services Ltd. (10 yrs)

DEEP DIVE

Vision

To reclaim and transform the dual embankments of the Ukkadam Bypass Road passing through the Valankulam Lake in Coimbatore, from a vehicle-dominated corridor to a pedestrian-friendly space through placemaking and eco-restoration of the lake.

Overview

Context : Coimbatore, the second-largest city in Tamil Nadu, lies at the foothills of the Western Ghats and is known for its network of interconnected lakes and reservoirs, many of which were constructed during the Chola Dynasty during 8th and 9th centuries AD. Valankulam Lake is among the many water bodies forming Coimbatore's ancient lake system. The Ukkadam Bypass Road stretches for 650 m through the lake, serving as a crucial link between the Trichy Road in the north and Sungam Bypass Road in the south, improving connectivity and reducing commuter travel time. The road is constructed atop elevated earth-filled embankments and a short bridge along a key stretch near the Sungam Bypass node maintains the water flow and the lake's natural drainage system.

Issues : Despite being a significant urban infrastructure, the embankments of the Ukkadam Bypass Road were misused for garbage dumping, leading to the pollution of Valankulam Lake. The road offered expansive views on either side, yet, remained underutilised, primarily serving as a space for haphazard parking and open defecation. Over time, the deteriorating conditions not only degraded the lake's ecological health but also affected the potential of this prime urban space.

Interventions : Coimbatore Smart City initiated the rejuvenation of the Ukkadam Bypass Road as part of Coimbatore's 8-Lakes Project. The project largely involved cleaning the Valankulam Lake water and its surrounding embankments by installing decentralised wastewater treatment systems (DEWATS/Phytorid STP) and public amenities along the lakefront. The transformation of the Bypass Road known as 'People's Promenade' was a key component of the project, serving as a boulevard that offered commercial and recreational opportunities under a canopy of trees. The interventions included bund strengthening, slope stabilisation, native plantations, development of promenades, viewing decks with seating spaces, boating jetties, restaurants, and cycle and walking tracks with pedestrian-friendly amenities.

Impact

Liveability
- Transformed a vehicular corridor to a pedestrian friendly public space
- Increased outdoor time spent ensuring physical and mental wellbeing

Economic-ability
- Sustained project finances through revenue from boating and food kiosks
- Generated economic opportunities for local businesses

Sustainability
- Improved air quality with the addition of over 500 new trees
- Enriched ecology and increased waders and grassland bird species associated with shallow waters and wetlands

Project Highlights

People's Promenade, Coimbatore

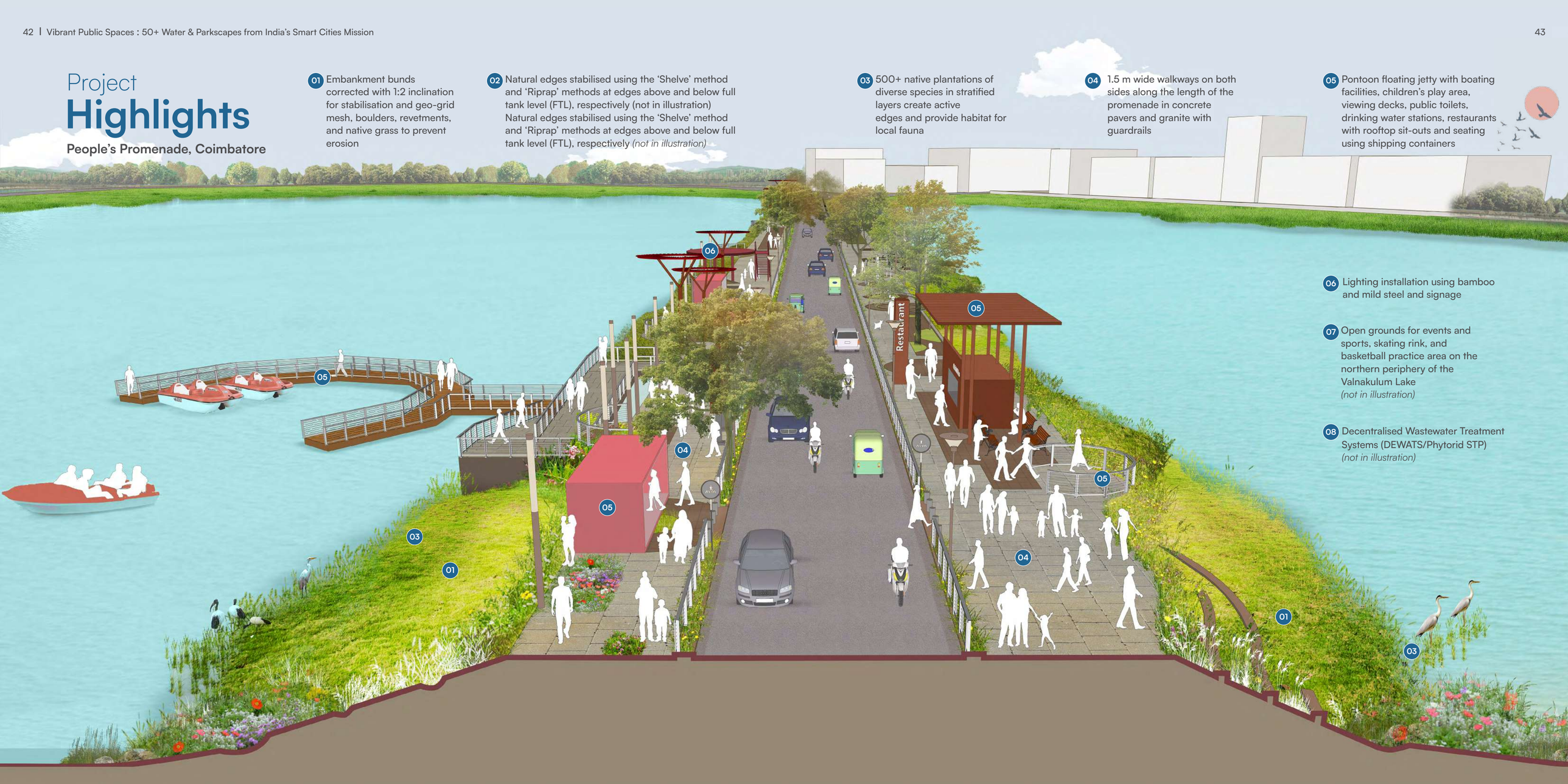
01 Embankment bunds corrected with 1:2 inclination for stabilisation and geo-grid mesh, boulders, revetments, and native grass to prevent erosion

02 Natural edges stabilised using the 'Shelve' method and 'Riprap' methods at edges above and below full tank level (FTL), respectively (not in illustration)
Natural edges stabilised using the 'Shelve' method and 'Riprap' methods at edges above and below full tank level (FTL), respectively *(not in illustration)*

03 500+ native plantations of diverse species in stratified layers create active edges and provide habitat for local fauna

04 1.5 m wide walkways on both sides along the length of the promenade in concrete pavers and granite with guardrails

05 Pontoon floating jetty with boating facilities, children's play area, viewing decks, public toilets, drinking water stations, restaurants with rooftop sit-outs and seating using shipping containers



06 Lighting installation using bamboo and mild steel and signage

07 Open grounds for events and sports, skating rink, and basketball practice area on the northern periphery of the Valnakulum Lake *(not in illustration)*

08 Decentralised Wastewater Treatment Systems (DEWATS/Phytorid STP) *(not in illustration)*

Before

After

Sequence of **Execution**

People's Promenade, Coimbatore

01 Site Preparation

- Cleared the site of the existing debris and garbage dumps
- Closed street temporarily on one side at a time, allowing one-way movement for emergencies
- Addressed conflicts like tree locations and resolved w.r.t. survey drawings and general arrangement drawings

02 Water Treatment

- Identified all the polluting inlets, mapped, measured, and collected samples for testing
- Installed Decentralised Wastewater Treatment Systems (DEWATS) and Phytorid STP to conduct primary and secondary stages of treating polluted water
- Engaged tertiary system of wetlands and lagoons to further clean the water before it enters the lake

03 Natural Edge Treatment

- Corrected bund slope to a consistent 1:2 inclination along the length of the bypass road
- Stabilised natural edge above FTL with a two-leveled promenade, allowing the lower level to submerge during extreme events (Shelve method) and by placing rocky material along the shorelines with steep slopes, bridge foundations, and other shoreline structures with provisions for intermittent planting to protect from scour and erosion (Rirap method)
- Stabilised gradual natural slopes with big boulders and aquatic plants
- Planted over 500 native plants in stratified layers starting with tall trees having dense foliage and flowering shrubs on the promenade levels; bog plants suitable for marshy conditions on vegetative slopes; marginal plants over riprap edges, and aquatic plants on shelves and boulders at different levels underwater, providing habitats for local fauna

04 Walking and Road Safety

- Maintained a consistent walkway of a minimum 1.5 m width along the length of the promenade supported by stone gabion wall and geo-grids in areas with steep gradients without reducing the lake's water area
- Introduced pedestrian crossings at strategic intervals connected to the walkway
- Created pedestrian-friendly nodes at both Trichy Road and Sungam Bypass intersections for safe access to the promenade

05 Public Amenities

- Constructed children's play area, restaurants with rooftop sit-outs, bird-watching decks, public toilets, varied seating, floating pontoon jetty, drinking water stations, lighting, and signage
- Developed grounds for events, a skating rink, and a basketball practice area on the northern periphery of the Valnakulum Lake

Challenges & Resolutions

- **Convincing implementing agencies to use ecologically sensitive and climate-friendly soft-engineered lake edges instead of hard-engineered edges in concrete**

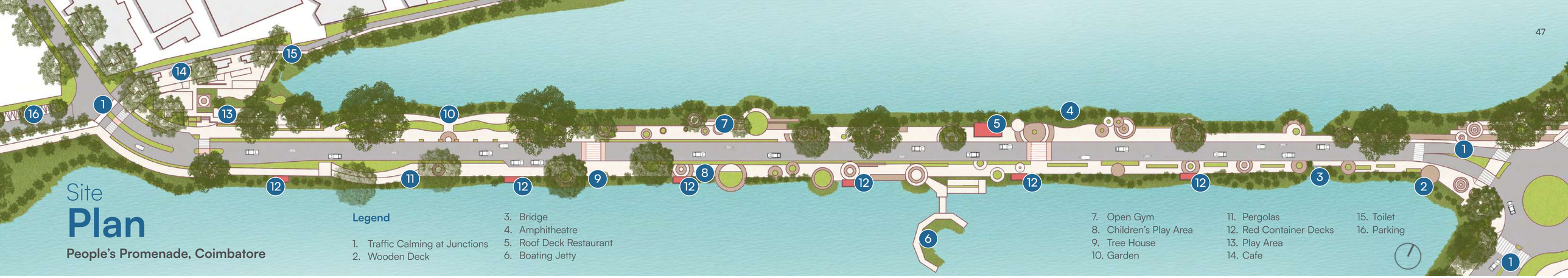
  Sensitised through extensive engagement to highlight the environmental and aesthetic benefits of the soft edges, aligning with the project's long-term goals.

- **Maintain a continuous 1.5 m flat area for pedestrian walkways throughout the road stretch without consuming the lake water area**

  Used stone gabion filling to support the cantilevered walkway in areas with steep bunds.

- **Construction on an ecologically sensitive site**

  Used pre-fabricated elements and floating pontoon structures for jetties and walking platforms to reduce onsite construction.



Site Plan

People's Promenade, Coimbatore

Legend

1. Traffic Calming at Junctions
2. Wooden Deck
3. Bridge
4. Amphitheatre
5. Roof Deck Restaurant
6. Boating Jetty
7. Open Gym
8. Children's Play Area
9. Tree House
10. Garden
11. Pergolas
12. Red Container Decks
13. Play Area
14. Cafe
15. Toilet
16. Parking

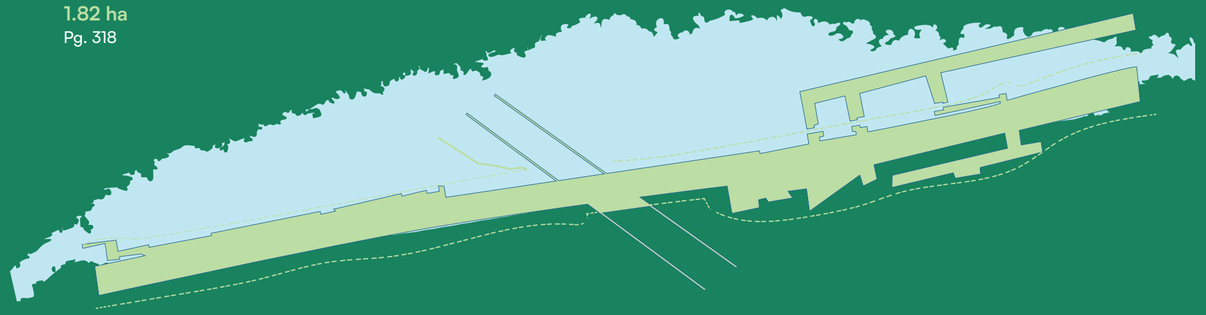
Unique Feature

The transformation of Ukaddam Bypass Road into 'People's Promenade' demonstrated the idea of a road/bridge being imagined not only for efficient traffic circulation but also as a public space with active and passive recreational opportunities.

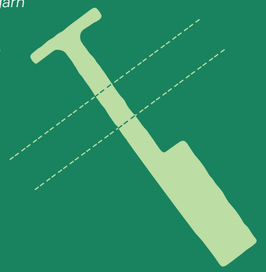
Citizen Speak

With boating, a kids' park, walking paths, and an array of small snack outlets and restaurants, this place is perfect for walking and socialising with friends and family, especially during sunrise and sunset.

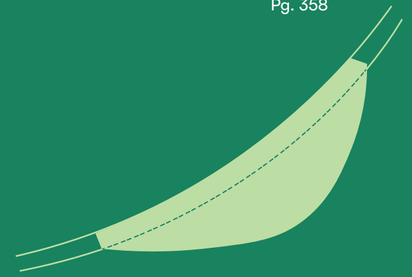
Sungam Under Flyover
Coimbatore
1.82 ha
Pg. 318



Rose Garden Underpass
Chandigarh
0.8 ha
Pg. 350



Smart Plaza
New Town Kolkata
0.4 ha
Pg. 358



Typology

PLAZAS

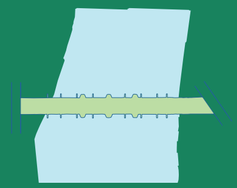
Where paths converge and voices meet,
A plaza hums with urban beat.

Stories shared and moments paused,
A space of life, where time is lost.

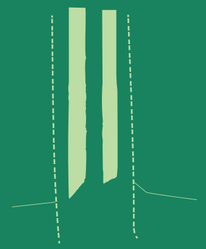
Cities breathe in these open grounds,
Their soul alive in bustling sounds.

Scale of Development
Context

Old Habba Kadal
Srinagar
0.06 ha
Pg. 342

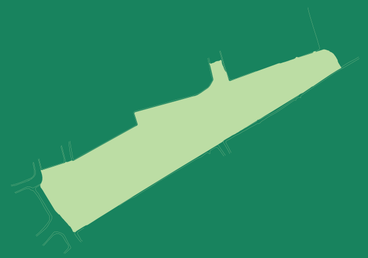


Jagtap Flyover
Pimpri Chinchwad
0.2 ha
Pg. 326



Banyan Tree Avenue
Tumakuru
0.3 ha
Pg. 354

Lal Chowk
Srinagar
0.3 ha
Pg. 334



The project area and context profiles are for representational puposes and may not be to scale

46 Sungam Under flyover

Coimbatore, Tamil Nadu

Typology

Park Plaza Vending Bazaar

Scale of Development

1.82 Ha, 450 m

Year of Completion

2020

Cost

CapEx
INR 21.84 Cr | USD 2.5 Mil

OpEx
INR 34.6 Lakh | USD 40,000 per annum

Revenue
No Information

Stakeholders

Nodal Authority
Coimbatore Smart City Ltd. (CSCL)

Funders
SCM-MoHUA & State Govt (50:50)

Implementing Partners
Coimbatore City Municipal Corporation (CCMC)

Design/Planning
Oasis Designs Inc., CDD India, SGS India Private Ltd.

Contractor
Sreepathy associates

Operation & Maintenance
Lion Services Ltd.

DEEP DIVE

Vision

To transform the space beneath the Sungam Bypass Flyover from a waste dump to a recreation and co-working hub, while restoring the adjoining Valnakulam Lake as part of Coimbatore 8-Lakes Project.

Overview

Context : Coimbatore, the second-largest city in Tamil Nadu, lies at the foothills of the Western Ghats along the Noyal River. The city is known for its series of interconnected lakes and reservoirs, constructed by the rulers of the Chola Dynasty in the 10th century AD. Vanakulam Lake is among this networked ecosystem and is flanked by the Sungam Bypass Road and the Sungam Bypass Bridge (flyover) along its southern edge.

Issues : The space under the 450 m elevated stretch of the flyover was being used as a dumpyard for construction debris, the heaps of which had extended up to the water's edge. The derelict space became prone to open defecation and illicit activities as a result. The lake embankments had eroded due to the loose silt and the water quality further degraded due to multiple drainage outlets into the lake, destroying the aquatic life.

Interventions : Coimbatore Smart City, in collaboration with the municipal corporation, transformed the space under the Sungam Bypass Bridge into a public plaza as part of the city's 8-Lakes Project. Aptly named 'Verandah', the space was designed to offer panoramic views of Valankulam Lake, utilising the flyover's shade as a 'ceiling.' Due to the spatial constraints of the existing railway line, the site was divided into east and west sections. The design incorporated co-working spaces, play areas, food stalls, exhibition zones, performance areas, promenades, viewing decks with seating, an open gym, a skating rink, and a boating jetty. Eco-restoration of the lake edge involved bund strengthening, slope stabilisation, native plantations, and floating pontoon walkways to minimise the use of concrete and solar-powered floating fountains for lake aeration. However, the complete tapping of drainage outlets and the resulting improvement of water quality and aquatic life in the lake remains to be fully addressed.

Impact

Liveability

- Improved the social value of the neighbourhood, attracting large footfall, especially from young college students
- Improved safety in the area, with continuous activity through the day

Economic-ability

- Sustained project finances through revenue from boating services, rentals from co-working spaces, multipurpose spaces, amphitheatre, food kiosks
- Potential increase real estate value around lake

Sustainability

- Prevented soil erosion and preserved water quality with soft-edge treatment
- Reduced waste and resource consumption by using prefabricated materials

Project Highlights

Sungam Under Flyover, Coimbatore

01 Lake embankment bunds corrected with terraced slope ('shelve method') at 1:2 inclination and slope stabilised with geo-grid mesh, boulders, revetments, and native grass

02 Slopes naturalised with plantation of bog, marginal, and aquatic plants in stratified layers to provide habitat for local fauna and prevent soil erosion

03 Walkways with concrete paver, granite, and gravel flooring, with guardrails

04 Cylindrical seating booths made of concrete and mild steel suitable to function as a co-working space with free Wi-Fi

05 Pontoon float-walk, boating facilities, and viewing decks to enjoy the lake vistas

06 Food kiosks and seating housed in shipping containers to attract visitors and public toilets for convenience

07 Amphitheatre, multipurpose event space, kid's play area, and skating rink to offer recreational opportunities

08 Lighting installation and tree guards using bamboo and mild steel; and signage *(not in illustration)*

Before

After

Sequence of **Execution**

Sungam Under Flyover, Coimbatore

01 Site Preparation

- Cleared the site of the existing debris and garbage dumps

02 Water Treatment

- Installed Decentralised Wastewater Treatment Systems (DEWATS) and Phytorid STP to conduct primary and secondary stages of treating polluted water
- Engaged tertiary system of wetlands and lagoons to further clean the water before it enters the lake

03 Edge Treatment

- Stabilised embankment bund with terraced 1:2 inclination, geo-grid mesh, boulders, revetments, and native grass
- Stratified the plantation plan with tall trees with dense foliage and bog plants on the top slope of embankment for shallow waters followed by marginal and aquatic plants in the submersible parts of the embankment to provide habitat for local fauna and prevent soil erosion

04 Plaza Construction

- Levelled the 450 m stretch under the flyover to provide a consistent base for the plaza and laid underground plumbing and electrical cabling
- Constructed multi-leveled spaces and walkways with concrete paver, granite, and gravel flooring
- Installed pontoon float walk with stainless steel guardrails, minimising the use of concrete in the ecologically sensitive zone
- Installed precast steps at designated points to provide access to the floating pontoon without disrupting the natural slope
- Created an amphitheatre and kid's play area
- Installed aesthetic lighting and tree guards using bamboo and mild steel; and signage
- Installed kiosks made with shipping containers, and pre-fab concrete cylinders with mild steel for co-working booths to ensure durability

Challenges & Resolutions

- **Convincing implementing agencies to use ecologically sensitive and climate-friendly soft-engineered lake edges instead of hard-engineered edges in concrete**

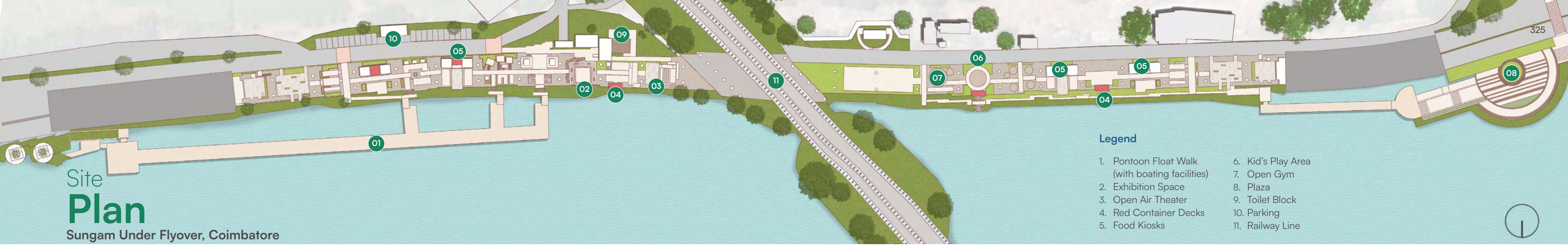
  Conducted extensive engagement to sensitise and highlight the environmental and aesthetic benefits of the soft edge, ensuring alignment with the project's long-term goals.

- **Approval for non-scheduled items like geo-textile, pontoons, and fibreglass-reinforced plastic grating decks**

  Coordinated with engineers and evaluators to justify the need for these materials, highlighting their critical role in the eco-restoration project.

- **Site constraints due to existing railway line**

  Coordinated with PWD and railway authorities and induced suitable design modification, allocating land for future railway expansion.



Site
Plan
Sungam Under Flyover, Coimbatore

Legend

1. Pontoon Float Walk (with boating facilities)
2. Exhibition Space
3. Open Air Theater
4. Red Container Decks
5. Food Kiosks
6. Kid's Play Area
7. Open Gym
8. Plaza
9. Toilet Block
10. Parking
11. Railway Line

Unique
Feature

In addition to recreational space, the plaza under the Sungam Bypass Bridge also functioned as a unique waterfront co-working hub. Shaded by the flyover and naturally cooled by the breeze from Valankulam Lake, this space offered a refreshing environment for working professionals with free Wi-Fi, open-air seating, and scenic views, making it an ideal destination for both relaxation and productivity.

Citizen
Speak

"I never thought this abandoned space beneath the flyover could become a place I'd come to for peace and focus. A few years ago, no one would have dared to visit here. But now, I was surprised at how calm and welcoming it felt. It's hard to believe it's the same spot I passed by every day."

48 Lal Chowk

Srinagar, Jammu & Kashmir

Typology
Park Plaza Vending Bazaar

Scale of Development
0.3 Ha

Year of Completion
2023

Cost
CapEx
INR 15 Cr | USD 1.7 Mil

OpEx
INR 60 Lakh | USD 69,000 per annum

Revenue
No Information

Stakeholders
Nodal Authority
Srinagar Smart City Ltd. (SSCL)

Funders
SCM-MoHUA & State Govt (50:50)

Implementing Partners
Srinagar Municipal Corporation (SMC)

Design/Planning
Oasis Design Inc.

Contractor
Hassan Road Construction Company Private Ltd (HRCC)

Operation & Maintenance
Private agency for 5 years, including revenue generation

DEEP DIVE

Vision
To streamline vehicular traffic at Lal Chowk and restore its cultural, economic, and functional vitality by creating a unified, pedestrian-friendly public square in the heart of Srinagar.

Overview
Context : In the heart of Srinagar, the summer capital of Jammu and Kashmir, lies the historic Lal Chowk. A bustling hub for commerce, culture, and politics, the chowk is anchored by an iconic Ghantaghar (clock tower) and lined with banks, hotels, and a wide variety of shops. Residency Road which passes through Lal Chowk, brings high volume of vehicular and pedestrian traffic, including shoppers from across Srinagar and few tourists given its high-security zone. Lal Chowk was once defined by a large, triangular parking area at its center with traffic circulating it and the same was then converted into an elevated plaza with gazebo seating and on-street parking along its perimeter. Locals could be seen reading newspapers in the gazebos and feeding pigeons at the plaza.

Issues : Overtime with rising footfall led to severe traffic congestion, disorganised parking, pedestrian safety concerns, and inadequate road design that failed to accommodate both vehicle and pedestrian movement efficiently. The lack of proper stormwater management exacerbated flooding while aging buildings and neglected utilities further diminished the functionality and visual appeal of the space. These issues created constant conflict between pedestrians, street vendors, and vehicles

Interventions : The Srinagar Smart City redeveloped the Lal Chowk precinct to celebrate its heritage significance. The redesign prioritised pedestrian movement and safety by developing Residency Road with a fixed carriageway for single-lane two-way traffic, parallel parking, and an uninterrupted sidewalk. Another 6 m wide road is restricted to emergency and goods vehicles only with low-height bollards to preserve visual openness while restricting vehicular entry. The leftover space was designed as a pedestrian plaza with seating areas, gazebos, an interactive fountain, an amphitheatre with swings, and a variable message display board. Additionally, the Clock Tower was renovated, contributing to the overall vista of the Lal Chowk junction.

Impact

Liveability
- Improved walkability through pedestrian plaza, wider walkways, and a continuous tabletop road
- Increased pedestrian safety by limiting vehicular access

Economic-ability
- Sustained project finances through revenue from parking
- Generated economic opportunities for local businesses through increased footfall

Sustainability
- Improved air quality by prioritising pedestrian-friendly design and reducing vehicular access

Project Highlights

Lal Chowk, Srinagar

01 Refurbished Ghantaghar (clock tower) with Persian and Mughal architectural elements to preserve its historical and cultural significance

02 Residency Road with fixed carriageway to slow and streamline traffic flow along with parallel parking

03 Pedestrian plaza flooring with straight linear pattern interspersed with green strips emphasise the Ghantaghar

04 Monochromatic floor design using devri stone to reflect the region's cultural identity

05 Tabletop carriageway along the plaza with cobblestone flooring

06 6 m wide vehicular access for emergency vehicles for emergency services

07 Low-height bollards for visual connectivity and restricting vehicular access to pedestrian plaza

08 Interactive fountains provide dynamic features for visitors

09 Open air theater to host cultural events and performances *(not in illustration)*

10 On-street parallel parking to accommodate visitors and support local businesses

11 Footpath for shopfront access

12 Lal Chowk sculpture and water fountain as a visual landmark reinforcing the cultural identity of the space

13 Seating bollards enhance safety and provide comfortable seating

14 Gazebos with seating to offer shaded rest areas for visitors

Before

After

Sequence of
Execution

Lal Chowk, Srinagar

01 Project and Site Preparation

- Conducted door-to-door surveys, town hall meetings, and interactive forums to understand stakeholder needs and gather feedback
- Cleared existing fencing, seaters, gazebos, and debris from the site
- Scarified the street to remove existing tar material

02 Underground Services and Utility Setup

- Installed underground utilities, including ducting for electrical services, a stormwater drainage corridor, and a sewer corridor

03 Infrastructure Upgradation

- Refurbished the Clock Tower
- Constructed plaza and adjacent walkways, laid with local devri stone
- Upgraded the adjoining roads as a continuous tabletop to enhance pedestrian safety and traffic calming
- Constructed open air theater for seating
- Installed concrete bollards to enhance pedestrian safety and restrict vehicular access
- Renovated building facades along the intervention area

04 Amenities and Recreation

- Installed interactive water fountain
- Set up a digital screen near the amphitheatre
- Installed seating areas, gazebos with seating, sculptures, signages with braille and lighting for visitors' convenience

05 Landscaping

- Incorporated green strips within the plaza for softscaping
- Planted a variety of plants and shrubs in the green strips

06 Operation and Maintenance

- Implemented a 3-year maintenance clause within the Defect Liability Period (DLP) of the civil contract
- Engaged a maintenance agency for 5 years to oversee the Central Business District, including Lal Chowk
- Enabled the maintenance agency to generate revenue through advertising initiatives

Challenges & Resolutions

- **Businesses evolving from local customer needs to tourist shoppers**

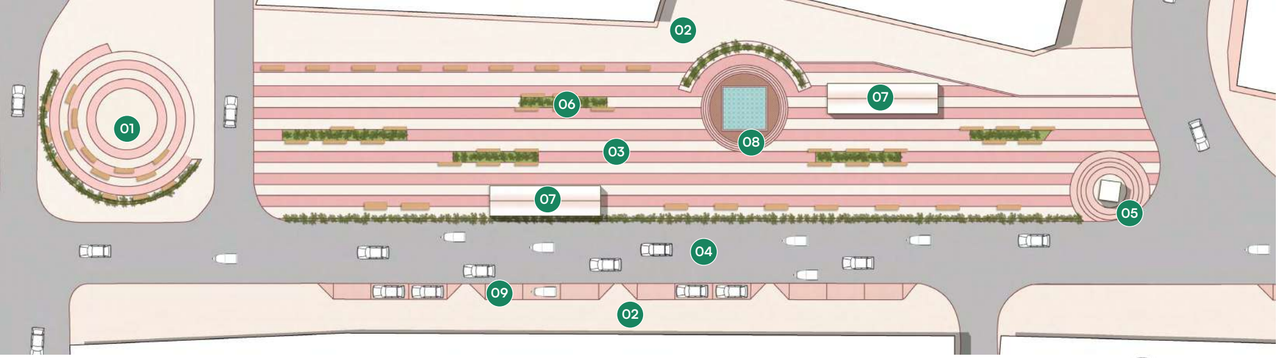
  Business discontinuity during covid and temporary change in local bus routes for traffic management reduced the footfall of local customers in the shops at Lal Chowk while the transformation increased tourist footfall. Old businesses at Lal Chowk are therefore adapting to new shoppers, with some transition time in customer footfall and incomes.

- **Managing footfall and traffic during redevelopment due to high urban density in the core city**

  Adopted a phased construction approach and coordinated with traffic authorities to implement a traffic management plan.

- **Extreme weather conditions, particularly during winter, disrupted construction progress**

  Planned construction activities around weather patterns and adjusted schedules to minimize weather-related delays.

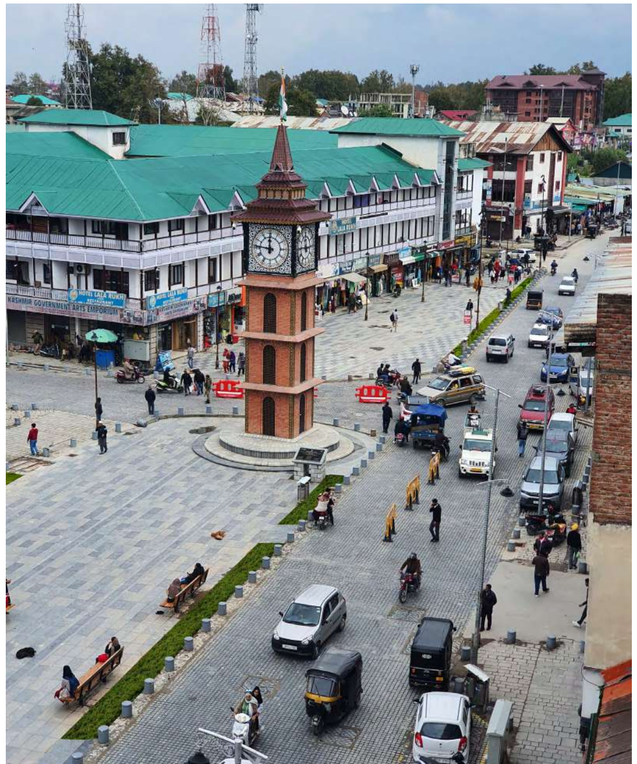


Site Plan

Lal Chowk, Srinagar

Legend

1. Open Air Theater with Digital Screen
2. Shopfront Pedestrian Street
3. Lal Chowk Plaza with inlay of green strips
4. Residency road as pedestrian priority street
5. Refurbished Ghantaghar
6. Open Seating
7. Shaded Seating
8. Interactive Fountain
9. Parking



Unique Feature

The creation of a more pedestrian-friendly plaza with amphitheater, water features, lighting, and seating, transformed the character from a place of high security and surveillance to a true public square, alive with locals and tourists - shopping, enjoying outdoor music concerts, and socialising.

Citizen Speak

Lal Chowk boasts a variety of shops offering plenty of opportunities for shopping. The charm of the place truly comes alive at night when the lights are on, making it a must-visit spot in the city.

Glossary

for colloquial or Indian language terms only

Adda	Informal hangout zone
Akhada	Traditional training ground for wrestling and martial arts
Bazaar	Market
Dukan	Small or large shop selling goods or services, commonly found in markets and streets
Dhobi	Washermen or washerwomen
Ghanta Ghar	Clock tower, usually a central landmark in cities, often surrounded by marketplaces
Ghat	Series of steps leading to a water body, commonly used for bathing, rituals, and gatherings
Haat	Traditional open-air market, usually held periodically, where local vendors sell goods, handicrafts, and fresh produce
Jyotirlingas	Sacred shrines dedicated to Lord Shiva
Kadal	Bridge, often referring to historic wooden or stone bridges
Kalyani	Man-made water tanks with stepped edges typically built near temples for rituals, bathing, and water conservation
Kere	Pond
Khau-Khatta	Popular food street or eatery hub, often serving local and street food delicacies
Kund	Man-made water tanks typically built near temples for rituals, bathing, and water conservation
Lungdawh	Stacks and rows of big rocks and stones
Marg	Road
Mahila	Woman
Mandapas	Pillared pavilions used in temple architecture for gatherings, rituals, and ceremonies
Nala	Natural or man-made drainage channel that carries rainwater or wastewater
Parisar	Campus or complex
Pukur	Pond
Sagar	Sea, ocean, or large water body
Sarovar	Large water body
Talab	Pond or lake
Tiranga	Tricolour national flag of India

Abbreviations

ADB	Asian Development Bank
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
BSNL	Bharat Sanchar Nigam Limited
BSUP	Basic Services for Urban Poor (Scheme)
Cantt.	Cantonment
CCTV	Closed Circuit Television
CNG	Compressed Natural Gas
Cr	Crore
DEWATS	Decentralised Wastewater Treatment Systems
DLP	Defect Liability Period
DMIC	Delhi Mumbai Industrial Corridor
DO	Dissolved Oxygen
DUDA	District Urban Development Agency
FOSCON	Forest Society of Conservation
GRC	Glassfibre Reinforced Concrete
GSB	Granular Sub-base
Ha	Hectare
HFL	High Flood Level
INR	Indian Rupee
ISBT	Inter-State Bus Terminal
LED	Light Emitting Diode
LGSF	Light Gauge Steel Frames
LSG	Local Self Government
Mil	Million
MLD	Mega Litres per Day
MoHUA	Ministry of Housing and Urban Affairs
MSL	Mean Sea Level
NMT	Non-Motorised Transport
NMV	Non-Motorised Vehicles
NNC	Nurturing Neighbourhoods Challenge
NRCP	National River Conservation Plan
OFC	Optical Fibre Cable
PCC	Plain Cement Concrete
PMC	Project Management Consultancy
PU	Pre-University
RCC	Reinforced Cement Concrete
RFID	Radio-Frequency IDentification
RO	Reverse Osmosis
RoW	Right of Way
SBM	Swachh Bharat Mission
SCM	Smart Cities Mission
SONAR	Sound Navigation and Ranging
Sqm	Square Meter
STP	Sewage Treatment Plant
SVNIT	Sardar Vallabhbhai National Institute of Technology
ULB	Urban Local Bodies
USD	United States Dollar
WTP	Water Treatment Plant

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