Azadi Ka Amrit Mahotsav

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HUDCO DESIGN AWARDS
2022 - 23

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HUDCO DESIGN AWARDS 2022-23

Housing and Urban Development Corporation Ltd.

(A Government of India Enterprise)

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The projects featured in this publication are compilation of award-winning entries of HUDCO Design Awards 2022-23 which are selected by the jury based on the information detailed in the presentation sheets and reports as provided by the participants to the Award. HUDCO does not take the responsibility for the accuracy, technical soundness or completeness of content of these works and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use or reliance on the contents of this publication.

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Foreword

India is urbanising at an unprecedented rate. The sheer number of projected urban population for India in the next 25 years is an indicator of the daunting task that the nation faces. At the centre of this formidable challenge is the mandate for sustainable development requiring innovative approaches to make our cities inclusive, economically, and socially sustainable, promoting ease of living.

The Government of India, duly acknowledging the importance of urban development, has embarked on the most comprehensive and planned urbanisation initiatives aiming at improving the liveability of Indian cities through some of the major urban development programmes like Smart Cities Mission (SCM), Pradhan Mantri Awas Yojana – Housing for All (Urban) (PMAY-U), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Heritage City Development and Augmentation Yojana (HRIDAY), and Swachh Bharat Mission-Urban (SBM-U). These Missions, as a cluster, aim at improving the quality of life in urban areas while enhancing the delivery of urban services. HUDCO, one of the Central Public Sector Enterprise, alongside the MoHUA, plays an integral role in the implementation of various flagship programmes by providing technical and financial support to housing and infrastructure projects.

HUDCO Design Awards is an expression of HUDCO's institutional commitment to sustainable development that goes beyond project financing and providing technical support, and provides a platform for urban professionals to showcase innovative projects that have the potential to positively impact urbanisation.

Towards appreciating designs and learnings from collective experience for a sustainable future, HUDCO has come up with yet another publication titled 'HUDCO Design Awards 2022-23'. This collection of creative and original work done by a team of development sector experts demonstrates innovativeness, sensitivity and energy efficient designs using indigenous technology for creating a sustainable habitat. I extend my heartfelt congratulations to all award winners for their valuable contribution and sincerely hope that this compilation will help augment knowledge of young urban professionals towards creating better and sustainable living environment.

Kuldip Narayan
Chairman & Managing Director

Preface

Sustainable urban development is a multi-dimensional complex challenge. To meet the challenge of growth dynamics without destroying the environment and social harmony, sensitive city planning and design of urban spaces play a key role in creating high-quality living environment.

Housing and Urban Development Corporation Ltd., as part of its vision and mission of promoting sustainable habitats, recognizes and rewards excellence in the design of habitats through its HUDCO Design Awards (HDA). HUDCO launched the HDA in 2012 to encourage and appreciate innovative designs that aim to make our cities more liveable, inclusive, and environmentally sustainable. Since then, HUDCO conducts HDA every year to acknowledge the creative and innovative design interventions demonstrated by professionals in urban development. Over the years, HUDCO Design Awards has received encouraging responses from professionals and motivated us to continue with the competition. I, on behalf of HUDCO, extend our sincere gratitude and heartiest congratulations to the award winners for contributing towards positive change through innovative design and sustainable solutions.

For the HUDCO Design Awards 2022-23, HUDCO invited original ground-breaking works done by professionals in the development sector. The entries received from all over India were evaluated by a team of eminent experts who selected winners for the five different categories; namely, Cost Effective Rural / Urban Housing deploying Innovative / Emerging & Disaster Resistant Technology, New & Innovative Town Design Solutions / Eco-Cities, Conservation of Heritage, Green Buildings, and, Landscape Planning & Design. Our special thanks to the jury for accepting the arduous task of selecting excellence and extraordinariness.

The compilation of award-winning projects titled "HUDCO Design Awards 2022-23" is for dissemination to all stakeholders, including urban local bodies and professionals, and for its release on HUDCO Annual Day 2023. I heartily commend the immaculate work of the HDA Team in the conduct of the event, and the collaborative efforts of HUDCO Regional Offices and Finance, Administration, IT and Public Relations Wings of Hudco, who worked in tandem with the HDA team to make it a success.

The HDA 2022-23 highlights the creative and innovative thinking of urban professionals, aimed at making our cities sustainable and more liveable. I sincerely hope the viable alternatives elucidate the potential to make a difference for the betterment of our future and provide insight to development professionals.

M Nagaraj
Director Corporate Planning

April 25th 2023

Contents

"Architecture is the will of an epoch translated into space."

– Ludwig Mies van der Rohe

"Architecture should speak of its time and place,
but yearn for timelessness."

Frank Gehry

CATEGORY : I

Cost Effective Rural / Urban Housing Deploying Innovative / Emerging & Disaster Resistant Technology

Shelter is amongst the three basic human needs. The Govt. of India has recently taken major initiatives to provide a boost to affordable housing in India. The target of achieving sufficient mass affordable housing in the country can be achieved using cost effective, emerging innovative technologies without compromising the quality and structural stability of the structure. It is essential to promote these technologies pertaining to the local conditions and environment.

It would entail preparation of efficient layout designs and building plans suitable for various disaster resistant technologies so that the precious investment in housing is not lost to the occurrence of natural disasters like earthquake, flood or cyclone. The skills and efficiencies demonstrated by the professionals with regard to the same need to be appreciated and showcased for its suitable adaptation.

"To create, one must first question everything."

– Eileen Gray

Category I

Cost Effective Rural / Urban Housing Deploying Innovative / Emerging &
Disaster Resistant Technology

Project

House with Different Roofs, Gadhinglaj, Kolhapur

By

Rohan Chavan, RC Architects

FIRST PRIZE

CONTEXT

Set in a tight neighbourhood, the site for 'House with Different Roofs' offers a unique context set in a semi-urban environment. The longer sides of the site are trapped between the neighbouring houses while the shorter sides are lined with two parallel streets that allow for light and ventilation for the house, and an opportunity to create a thoroughfare within the house.

The Vision of the project was to ensure maximum availability of natural light and ventilation to the house without disrupting the privacy of its inhabitants and to minimizes dependence on artificial resources for ventilation and creates spaces that serve more than one user group and more than one activity.

HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR

1. SITE AND PARALLEL STREETS

2. SITE TRAPPED BETWEEN TWO PARALLEL WALLS

3. INTRODUCING A GARDEN TO ENSURE LIGHT AND VENTILATION TO INTERNAL SPACES

4. CREATING A THOROUGHFARE WITHIN THE SITE CONNECTING THE TWO STREETS

DESIGN CONCEPT

PLANNING

The design is captured between two parallel walls on the longer sides and streets on the shorter sides of the site. The house draws the maximum amount of light from its central core and accommodates all the common spaces around it and pushing most of the solid built towards the edges. The house works with the idea of a room and garden, each room is attached to a garden. The garden in conjunction with the room supports different activities at different times of the day and creates spaces with many permutations of use within the house.

CONCEPT

As the name suggests, House with Different Roofs makes use of four different roofs, each rendering a unique spatial experience. The roofs consist of skylights that draw in fresh air and passive natural lighting for the entire house. In addition to the protection from outside environment and noise, they also create playful spatial experiences within and around them.

HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR

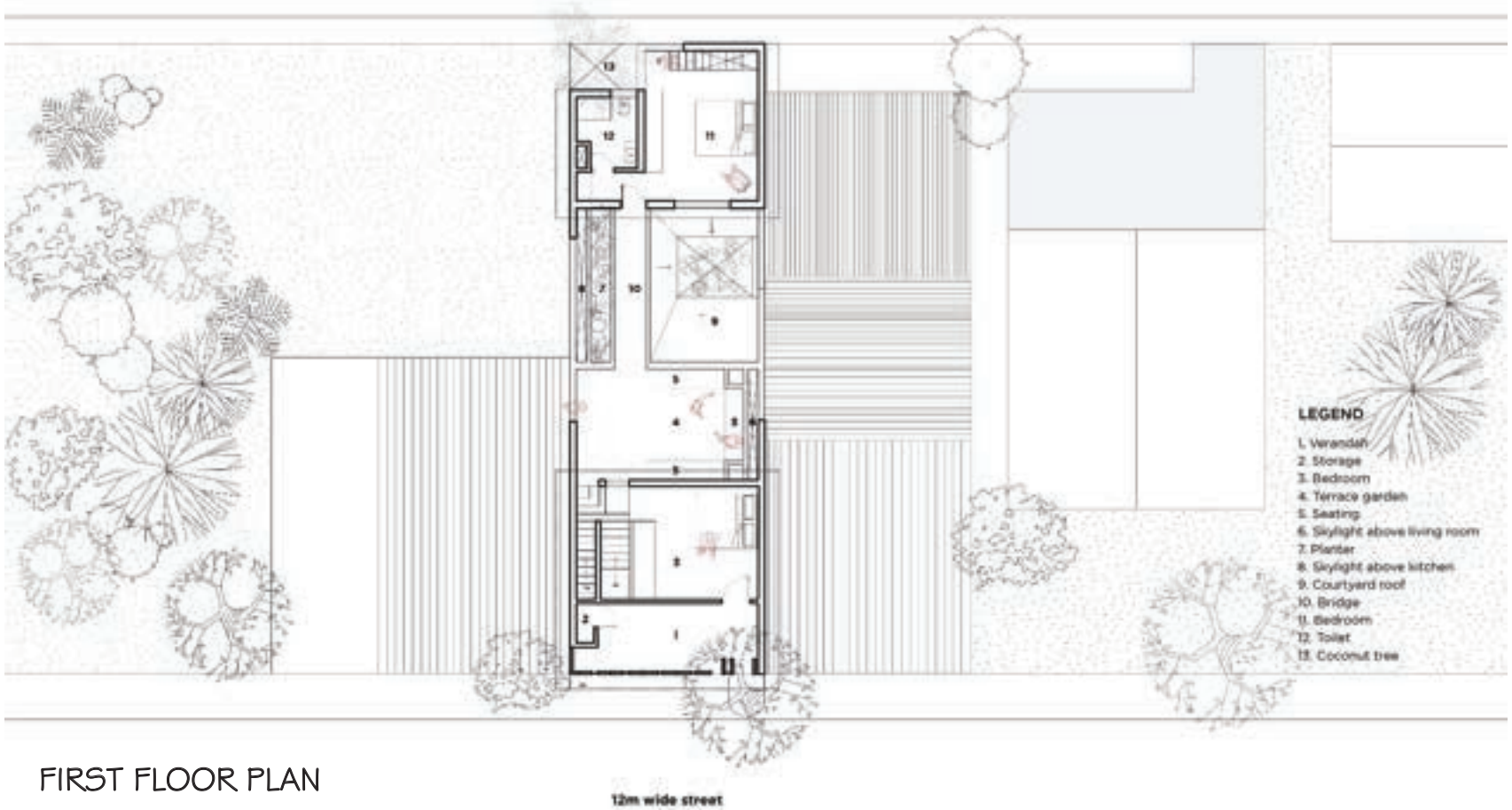
GROUND FLOOR PLAN

HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR

GROUND FLOOR

On the ground floor, one enters the house through a porous yet well-covered verandah that overlooks the street. It allows natural light which further seeps into the existing hall. The entry hall has a staircase at the shorter end that leads to the first floor. As one makes their way further into the house, they are met with the light from the overhead skylight and a glimpse of the garden. The living room trapped between the outer shared walls, takes maximum advantage of the other two sides that are open, one looking into the existing hall through a window and the other turning into a half wall overlooking the dining area and the garden beyond. The kitchen is located opposite to the dining area and is bound by an external wall with a skylight on one side and is open to the garden on the other side. The common garden is surrounded by the living room, the kitchen and the bedroom as it is utilized for various activities throughout the day. It also plays a very important role in providing abundant light and ventilation for the entire house. The bedroom, with its private toilet, has openings on opposite walls facilitating cross ventilation and opens into a private garden.

HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR



FIRST FLOOR PLAN

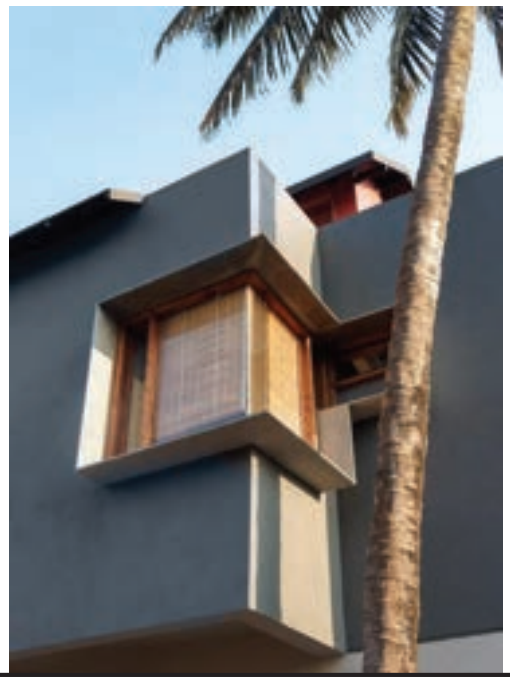
HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR

FIRST FLOOR

The first floor consists of two bedrooms connected with a common terrace garden. The common terrace garden is a semi-covered space topped by a pinewood lattice cover creating an intriguing volume where users can sit together along the benches or use it as a space for congregation. This space is followed by an open to sky terrace, lined with planters and overlooking the garden on the ground floor. Considering the harsh direct sunlight that the terrace receives, the walls of the terrace are painted tan red to minimize glare and make it a comfortable space to inhabit. The terrace terminates at the second bedroom that has a view of two gardens – the ground floor garden near the dining and the private lattice roof garden. In addition to this it has a view of the rear street through a corner window.

HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR

HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR



HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR

PROJECT PROFILE

Project name: House with Different Roofs

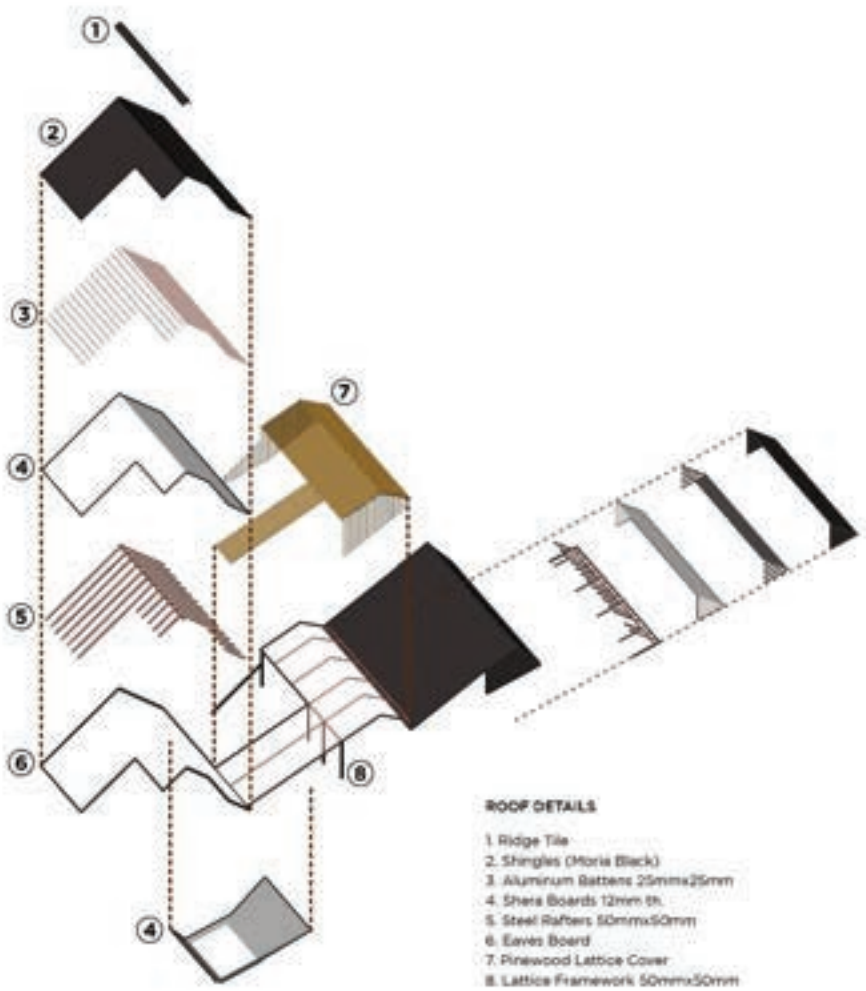
Location: Gadhinglaj, Kolhapur

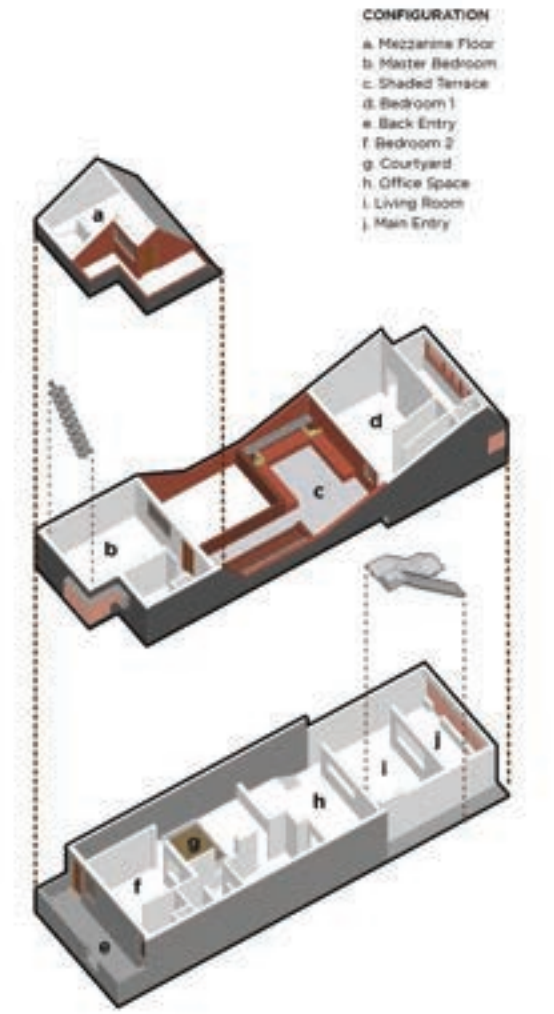
Site Area: 1,250 sq.ft (116 sq.m)

Project area: 2,800 sq.ft (260 sq.m)

Project Completion Year: 2022

Link to youtube video: https://www.youtube.com/watch?v=F7IhVRDOnso&ab_channel=Buildofy





EXPLODED ISOMETRIC

HOUSE WITH DIFFERENT ROOFS, GADHINGLAJ, KOLHAPUR

"Any architectural work that does not express serenity is an error."

– Luis Barragán

Category 1

Cost Effective Rural / Urban Housing Deploying Innovative / Emerging & Disaster Resistant Technology

Project

House of Hope, Kochi, Ernakulam, Kerala

By

Ajay Abey, Center for Sustainable Built and Natural Environment (C.S.B.N.E)

SECOND PRIZE

THE CHALLENGE

Housing is a basic right but soaring land prices and exorbitant cost of materials make dreams of owning a house difficult to achieve for many across India. Current practices of constructing houses in India tend to cut off inhabitants from their surrounding natural environment and pay little attention to the environmental impacts of building materials across their full life cycle. Moreover, buildings in India are highly energy inefficient and usually fail to factor in seasonal variations or make use of available passive energy sources. Most affordable housing projects also fail to even provide quality living spaces to its residents. By some estimates, India has a demand for 50 million units, 97% of houses in the affordable housing segment. The high ecological costs of meeting this important socio-economic right and possible ways of avoiding this zero-sum game is not getting the attention it should.

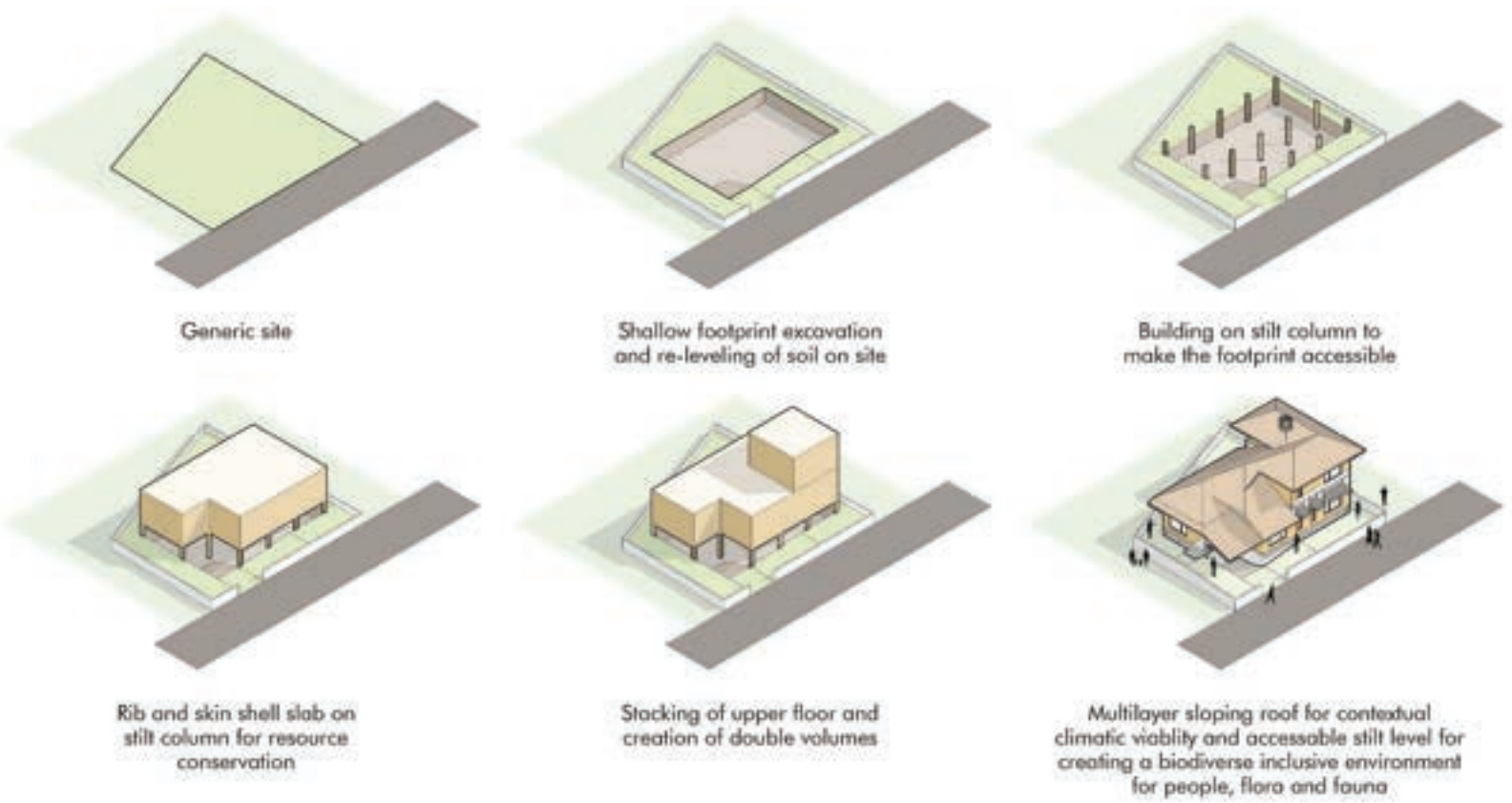
HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA

THE SOLUTION

This is a new type of house which has a Rib and Skin Shell Slab System, Light Weight Masonry System and Multi-layer Roofing System. The techniques prioritize the use of economical and eco-friendly materials and systems, with an emphasis on conserving and protecting resources, recycling and efficient use of materials. Processes that are conducive to the local economy are built into the techniques. The role of aided self-help is emphasized in the solutions. The homes, designed as nuclear-family residential dwelling units, utilize the entire parcels of available land through the development of built models on stilt platforms with lightweight floors. The buildings are energy-efficient, climatologically appropriate and culturally relevant, and provide a holistic built environment through backyard farming, cattle, poultry, fish rearing etc.

RESULT & LESSONS LEARNED

The modular planning and construction techniques result in material and time saving, requiring a smaller labor force on site. Uptake of the techniques is easy and fast because of their simplicity and localization. Depending on site-specific contexts like accessibility the cost of constructing a building is at least 50% cheaper than a conventional building. This region-specific construction methodology can serve as a conceptual framework to address the affordable and sustainable housing scenario across India and internationally.

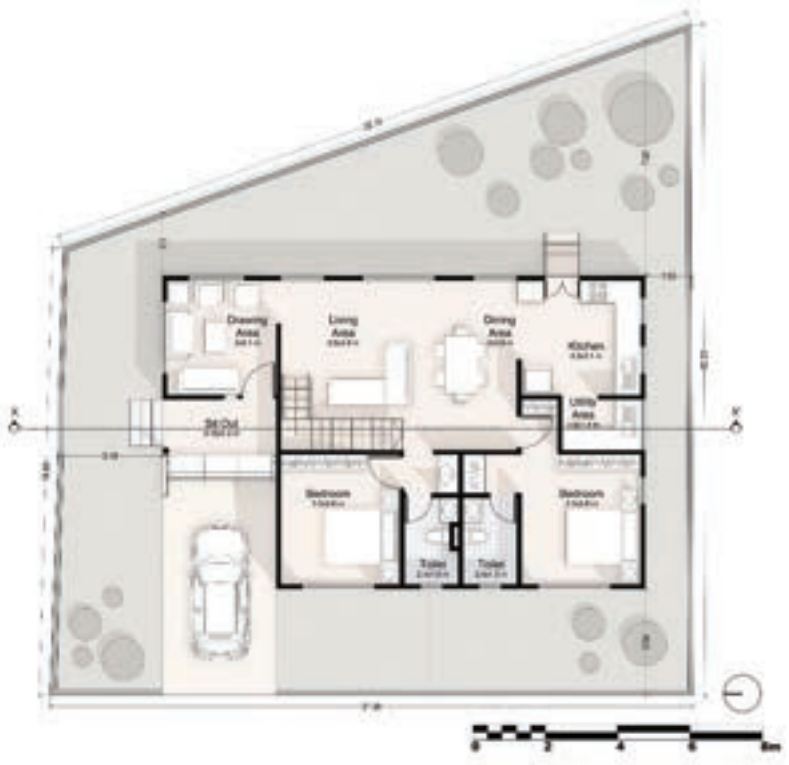


Creating a spatial volume appropriate for a
Biodiversity Inclusive Sustainable Environment

HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA

SALIENT FEATURES OF THIS INNOVATIVE METHOD OF HOUSE CONSTRUCTION ARE:

- The buildings can be erected more quickly with a smaller labor force at the site.
- Buildings are lighter in weight resulting in savings on materials and foundation.
- The houses are more suitable for human occupation achieved through better insulation and passive cooling.
- Improved systems of the layout of spatial planning, ventilation, plumbing, and waste management help in achieving cost-saving and conserving energy.
- Every bit of land is put to use through the development of a built model on a stilt platform with a lightweight floor.
- A holistic built environment of clean and healthy surroundings pleasing to the aesthetic sense and conducive to the local economy is achieved through backyard farming, cattle, poultry, fish rearing etc.
- Coordination, functional planning, structural planning, and construction methods yields economical solutions.
- The role of aided self-help is emphasized in the solution of low-cost housing problems.
- Modular planning and construction techniques result in material and time-saving.
- Locally made special type of formwork for efficient construction methods and resource-saving.



Ground Floor Plan

First Floor Plan

HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA

MULTILAYER ROOF SYSTEM

The roof of the structure is made of multilayer lightweight steel fabrication and futureproofing for solar panel installation is already accounted in the design details. The 3 cm air gap between the Reused terracotta tile and the roof sheet assists in convective cooling and keeps the structure cool throughout the hot summer.

Qualities/benefits of multi-layer roofing:

- Reduces heat emission and cools naturally through convective process.
- Lightweight and hence the structural expenses are lower.
- Convective cooling is facilitated due to the large volume and the additional span achieved through a lightweight roof.
- The interiors are much cooler compared to a conventional technology house.
- Recycling and reuse made possible through the use of old terracotta tiles as roof texture.
- GI roof structure and fabrication can future proof the structure for solar panel installation.
- The stainless-steel water tank provides better structural efficiency and improves water quality.

Ground Floor Plan

First Floor Plan

RESOURCE FRIENDLY FOUNDATION SYSTEMS AND UTILITARIAN STILT FLOOR

By implementing a new method of foundation system, the entire footprint of the building is raised on stilt columns and made accessible and is put to use for the cattle shed, poultry, fishpond, and dog kennel. The cooler earth in the semi-accessible footprint will serve as a cold air reservoir to assist convective passive cooling for the built form.

RIB AND SKIN SHELL SLAB SYSTEM

An innovative skin shell slab system which requires only 1.5 inch Concrete bed saves the resource by 60% in the construction of slab. The new shell slab system is light weight and saves considerable load on the foundation and is sufficient to manage the conventional loading on a residential structure. The shell slab infill is made with non-degradable solid waste such as plastic, glass etc. Resource saving of construction materials and re-use of waste materials are emphasized in the process.

The merits of the rib and skin shell systems are:

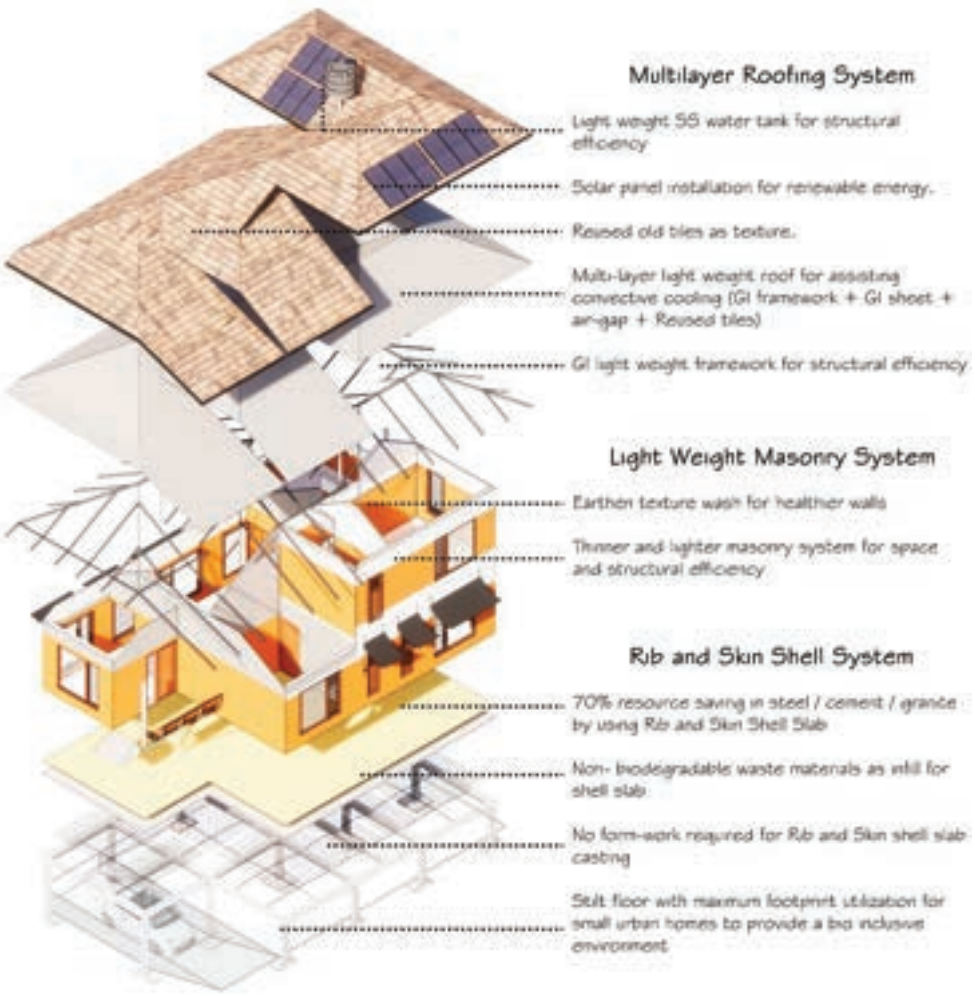
No formwork is required.

The thickness of concrete can be considerably reduced to only 1.5inch saving cement/sand and aggregate.

The use of GI metal mesh instead of steel Reinforcement bars reduces weight as well as cost and conserves resources and energy.

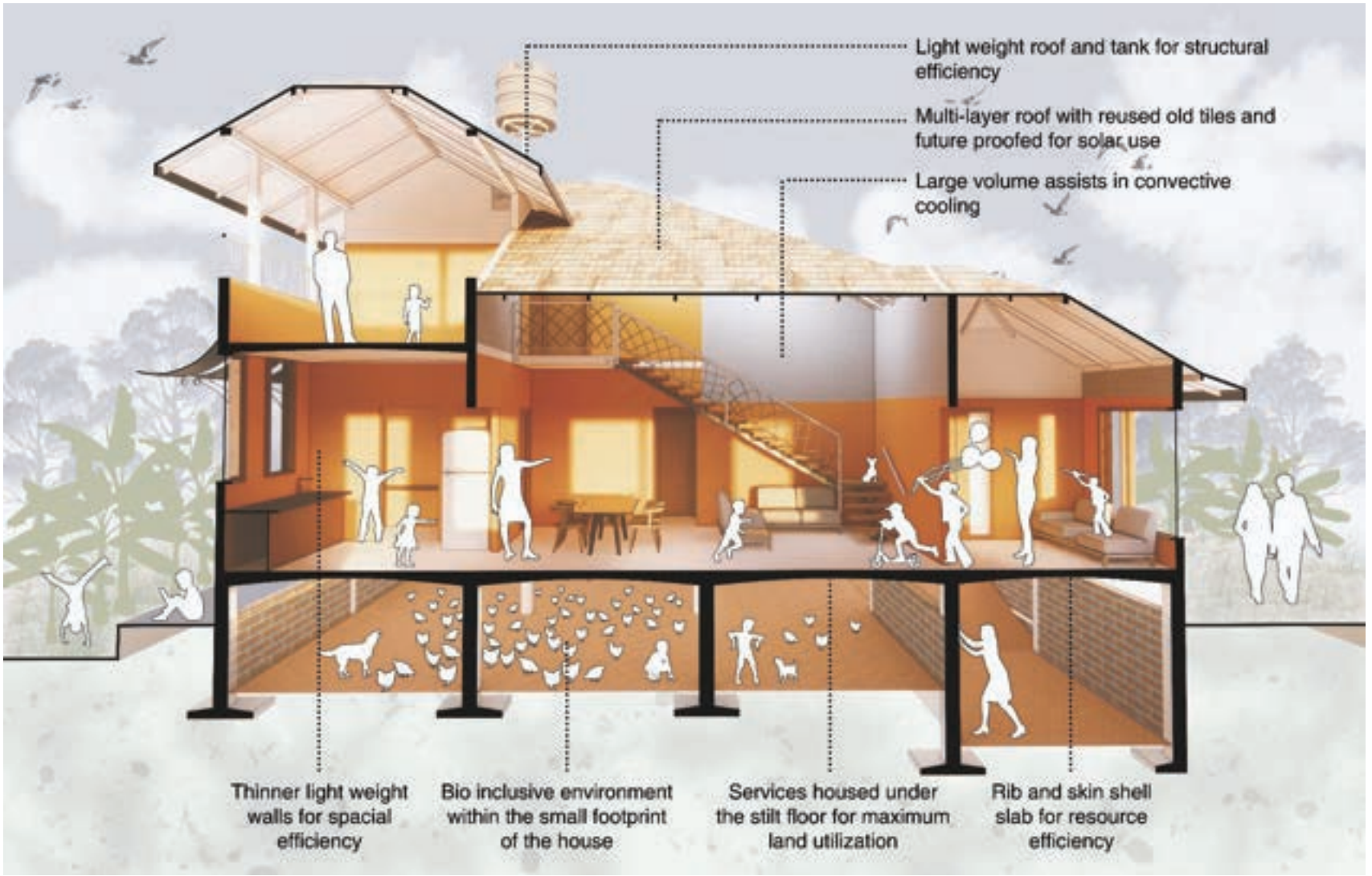
Cement, sand and water usage can be reduced by up to 60%.

The technology can be easily trained to local artisans.



Exploded View

HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA



LIGHTWEIGHT MASONRY SYSTEM

The walls are built of lightweight aerated concrete blocks made up of fly ash, a by-product of industry. A.A.C blocks require no water curing on site so as to save the water resources. Lintels are made with reinforced AAC blocks and RCC sunshades are avoided and metal chajjas are used to save resources in concrete and steel. Since these blocks are easy to cut with the brick cutter, the plumbing and electric conduit could be easily laid beforehand.

COST-EFFECTIVE AND ENVIRONMENT FRIENDLY FINISHES

Masonry walls are mud washed which give a chemical-free surface coating. The windows and doors are made out of thin layers of wooden sheath. Only plantation wood is used considering the replenishable aspects of wood in construction. Stainless steel insect-proof mesh was used as window frames which in turn rendered the interiors cooler and insect-free. The continuous inflow of air through this mesh maintains the microclimate achieved inside and allows convective cooling enhanced by the cold air from the stilt floor.

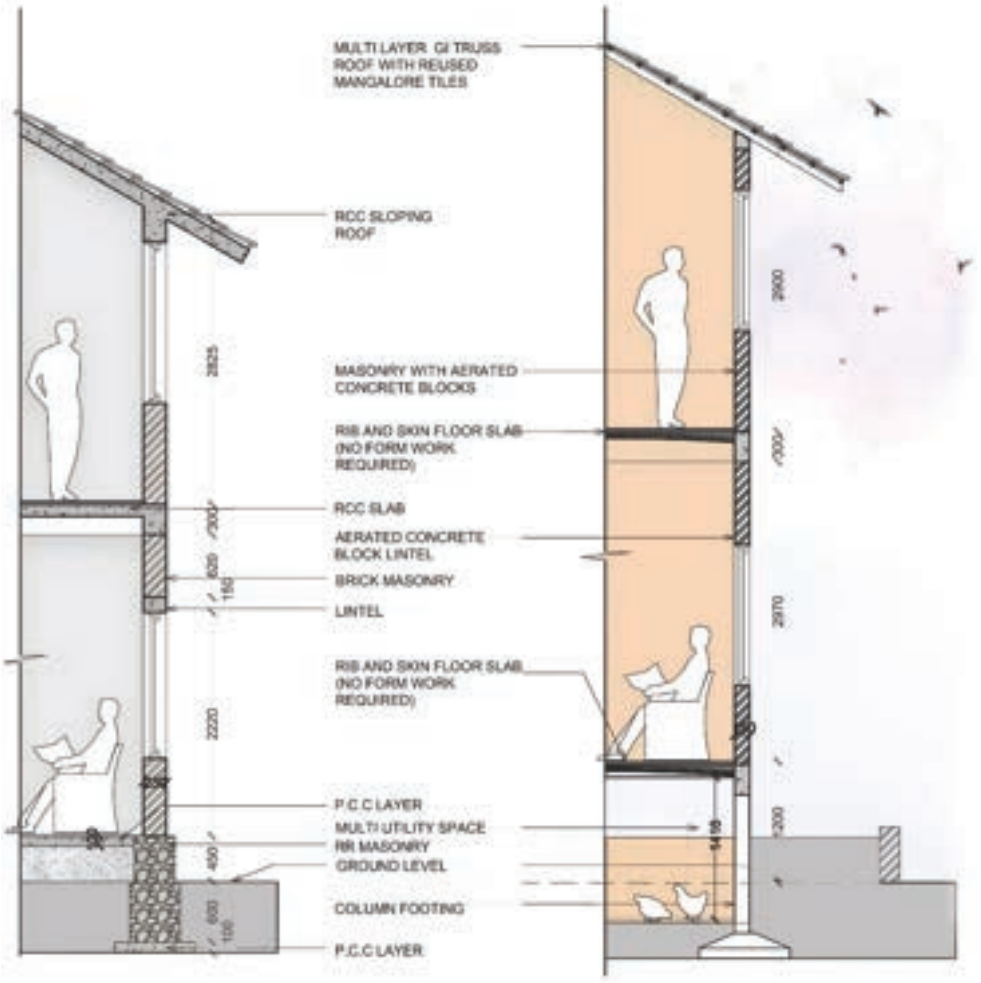
HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA

COMPARISON OF RESOURCE UTILIZATION

This affordable prototype consumes **67% LESS CONCRETE, 75% LESS STEEL AND NO RUBBLES** as compared to a conventional house typology of similar scale.

"The House of Hope- A Planet, People and Pocket friendly home" serves as an innovative technological solution that can be adopted across all regions viz, flood plains, hot arid and hot humid zones, cold zones and earthquake zones. Prototype is also a scalable model which can be followed for both low-income housing and bungalow type of premium housing.

The total cost of the project was Rs.27 lakhs for 1600 sq.ft + 1000 sq.ft (utility areas) making it Rs.1038 per sq.ft which is 50% less than the market rate.



Conventional Construction

Sustainable and Affordable Model

Item	Approximate Quantity for conventional model	Approximate Quantity for Sustainable model	% of resource saving
Concrete(m^3)	60	20	67%
Steel(kg)	3200	800	75%
Random rubble(m^3)	37	0	100%

HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA

CONSTRUCTION PHOTOS

Multilayer
Roofing system

Light Weight
Masonry system

Sustainable finishes

Rib and Skin
Shell system

Utilitarian stilt floor

HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA

HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA

HOUSE OF HOPE, KOCHI, ERNAKULAM, KERALA

"The Sun does not realise how wonderful it is until after a room is made."

– Louis Kahn

Category I

Cost Effective Rural / Urban Housing Deploying Innovative / Emerging & Disaster Resistant Technology

Project

URVIKOSA (Centre For Sustainable Studies & Research)

Down to Earth Village, Shanthi Nagar, Trivandrum District, Kerela

By

Hasan Naseef A., URVI Foundation

SPECIAL MENTION

INTRODUCTION

It is a research center in Trivandrum, Kerala facilitating environmental research and as a hub for alternative education. It's named 'Urvikosa' meaning "seed vessel" in Sanskrit. It is aimed to study ,propose and practice alternative solutions to the environmental issues in Kerala in line with the current climate scenario.

This institute will be focusing on research and education on earth, lime, bamboo, scrap etc as primary building materials, emphasizing sustainable climate responsive design/construction, appropriate building technologies and natural resource management. It is aimed to facilitate technology transfer through conducting various training programs and courses on sustainable material utilization.

URVIKOSA (CENTRE FOR SUSTAINABLE STUDIES & RESEARCH)

OVERVIEW

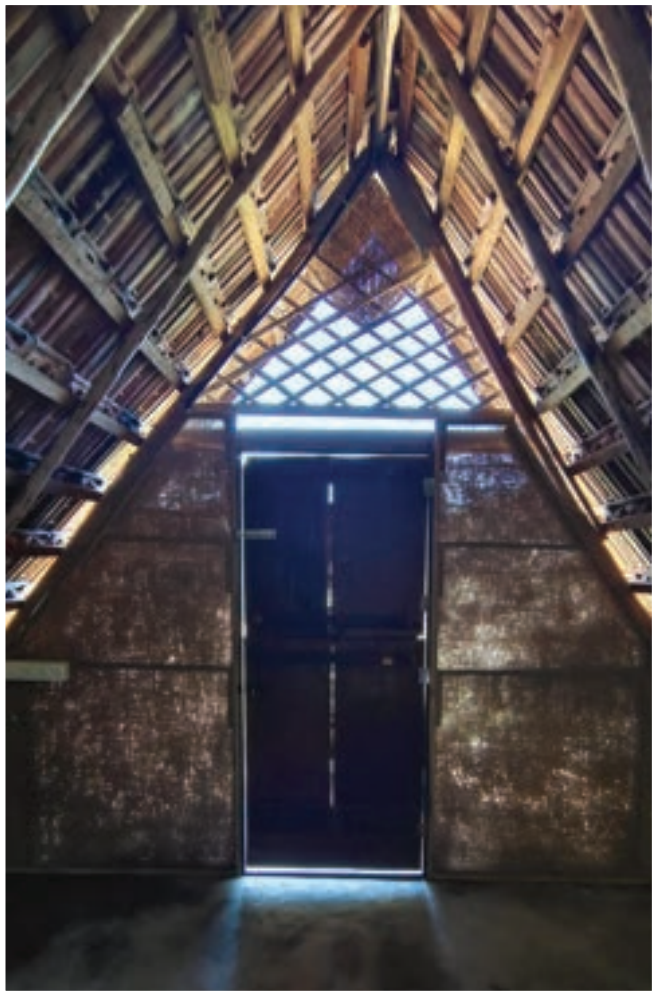
PROJECT NAME : **URVIKOSA (CENTRE FOR SUSTAINABLE STUDIES & RESEARCH)**
PROJECT LOCATION : Down -To - Earth Village , Shanthi Nagar, Koonanvenga P.O., Trivandrum
COMPLETED YEAR : 2021
PROJECT AREA : 5 ACRES
BUILT UP AREA : 1300 SQFT
Adjacent Landmark : Vamanapuram River

This INSTITUTION acts as finishing school to provide guidance for new generation professionals in developing their careers in line with the land typology and climatic conditions of Kerala. And it facilitates the research and development in the streams of sustainable, alternative and responsive architecture. Such developments and innovations only can keep the vernacular architecture live with developing lifestyle. Considering the nature, resource and climate of Kerala, the institute's major concentration is to be on earth, lime, bamboo, scrap etc as building materials.
The housing and other amenities for the enthusiastic researchers are properly planned and executed in this project with minimal construction cost.

COST EFFECTIVE STRATEGIES

REDUCE

The material reduction has been properly incorporated into the construction of the attick hall. By using cement fibre board and jute clothes, the width of the walls is reduced to an average of 5 cm. The attick hall was designed in such a way that a wall structure is not needed on the peripherals. The roof was merged into the floor thereby reducing material consumption. The wall thickness in the toilet block is reduced by using a single layer of cement fibre boards.



REUSE

Different materials are cleaned and reused in the construction of the buildings in campus. The storage unit made of old wood is reassembled and redesigned to construct the base camp building.

The GI tubes and Mangalore tiles used for making the roof structure are also collected from the nearby locality and reused to make it usable in the building.

UPCYCLE

Upcycling is the creative reuse of different materials after their normal use into something with a higher value.

The scrap beer bottles are being used as a building material in the campus. This upcycling not only reduces waste in the environment but also reduces the construction cost in the market.

RECYCLE

The water used in the campus is being recycled to get fresh water. The rainwater is also collected and recharged to the ground using a recharging pond. The water for the campus is drawn from a nearby well.

BUILDING ELEMENTS & CONSTRUCTION TECHNIQUES

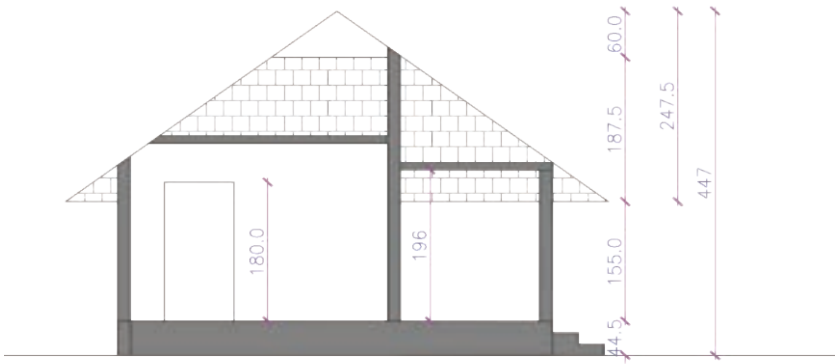
BASE CAMP-ADMIN

Floor area: 387 sqft

An old wooden storage unit (locally called 'pathayam') is redesigned and restructured into a base camp. It acts as a reception area for the students. It also serves as an open dining area and balcony.

The wooden structure is placed over the porotherm basement. Library space is built with old Mangalore tiles joined using mud mortar. The roof structure is built by reusing old GI tubes collected from the locality itself. The floor and walls of the toilet are given an oxide finish. A monkey ladder is provided as the access to the attic space which is used as a dormitory space

PLAN



SECTION

ELEVATON

DESIGN CONSIDERATIONS

1. The wall, roof and floor system of the base camp is made by reusing old storage unit made of wood collected from the nearby locality.

2. The extension of the main building is built by reusing old Manglore tiles stacked using mud mortar.

3. Rammed earth foundation was chosen for the buildings and the porotherm brick is used as the basement

4. Scrap steel is collected from the locality and reused as the roofing member.

5. The old Mangalore tiles are collected and reused as the main roof member. Mud is reused to get different plaster finishes.

ALTERNATIVE TECHNIQUES

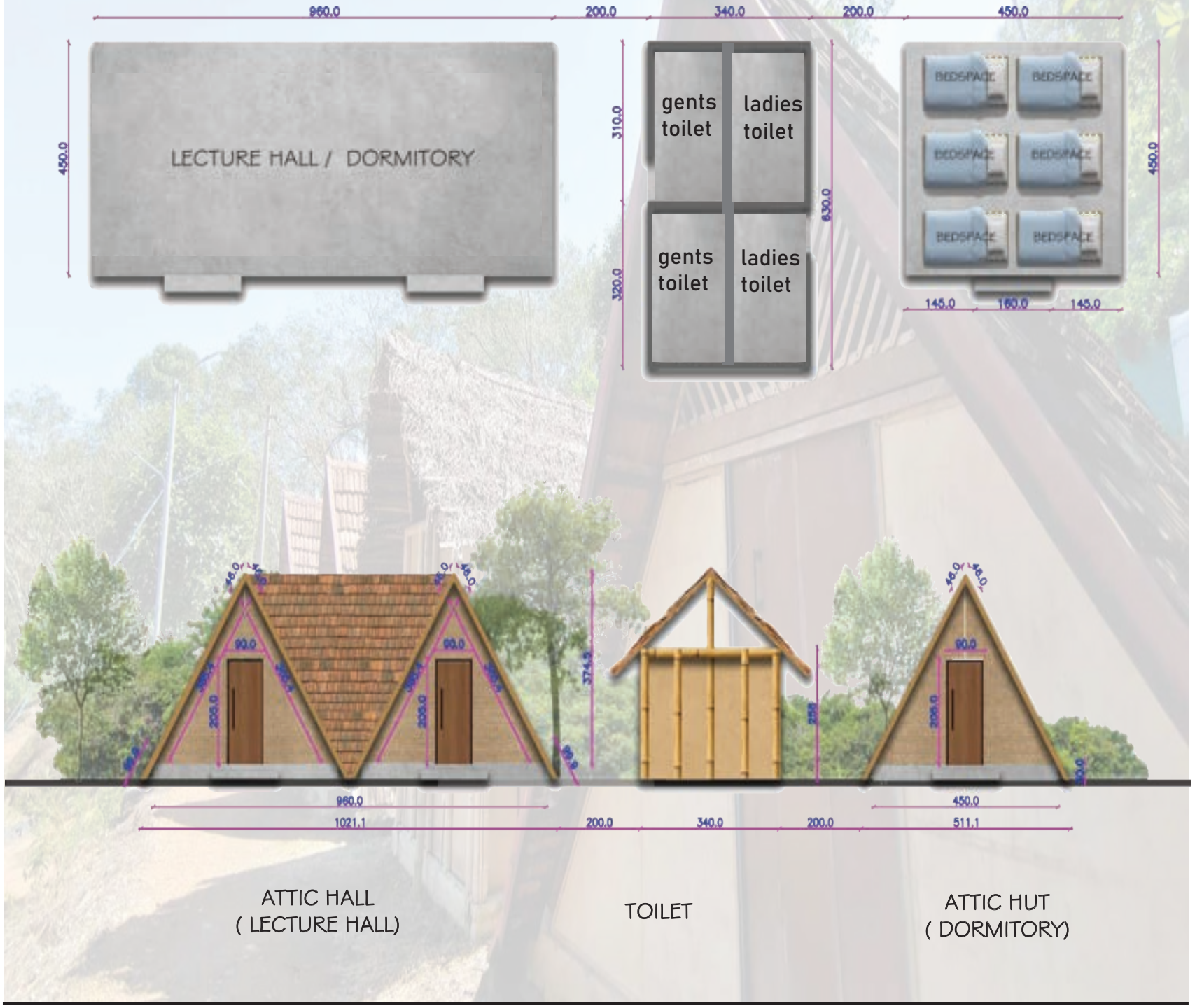
1. The oxide flooring is cost-effective and requires fewer energy resources,

2. Oxide finish given for toilet walls to mitigate energy use.

LABOUR

1. Local skilled labours and techniques were employed to complete the construction. The wooden carpentry works are done without nails (locking system)

ATTIC HALL , HUT & TOILET



URVIKOSA (CENTRE FOR SUSTAINABLE STUDIES & RESEARCH)

Photos during construction

ATTIC HALL

Floor area: 465 sqft

It resembles the shape of an old attic space in traditional Kerala houses employed mainly for storage purpose.
The roof is placed directly above the basement made of porotherm bricks. The roof is designed in such a slope that it can act as the wall itself. Wooden logs are used as purlins and used Mangalore tiles are laid over them. Jute clothe painted with mud is used as a wall on the elevation. Old wooden doors are reused as the entrance.

Attic space

SPACE UTILISATION

ATTIC SPACE

There are several multi-utility spaces in the base camp. The attic space is used as a dormitory for sleeping purpose.
Veranda space is used as an open dining area as well as a balcony.

ATTIC HALL DESIGN CONSIDERATION

1. Jute and a mud finished wall on the sides provide more space on the interior and a sustainable view to the building.

2. Rammed earth foundation is selected for the attic hall building since the soil is hard enough.

3. Basement is done with CSEB bricks cast in-situ using hand driven machines thereby reducing pollution and transportation cost.

4. Australian pine tree logs (*C. equisetifolia)* are treated and used as a wall cum roof structure done in a peculiar attic-like design.

5. Old Mangalore tiles are used as the main roofing tile. Reused wooden doors are selected to cover the openings.

6. Partitions are made using cement fibre boards and structural columns are provided using bamboo.

7. Thatched roofing is placed over the columns using split bamboo.

ATTIC HUT

Floor area: 218 sqft

It resembles the shape of an old attic space in traditional Kerala houses employed mainly for storage purposes.

The attic dormitory serves as the stay facility for the delegates. The roof structure is placed over the basement made up of CSEB bricks. The roof structure is made of wooden logs as rafters and purlins. Old Mangalore tiles laid over it reduce the wall area to a minimum. Reused wooden doors are fixed using wooden logs to the structure.

AMPHITHEATRE

The land area is a hilly region sloping towards the river. The development was planned keeping its natural contour as it is. But the heavy rainfall and subsequent water flow result in extensive soil erosion. So an Amphitheater was planned in order to protect the soil terrain. It can be used as a stair way to get down the valley and as a seating space for various programs.

Scrap car tyres were collected from different local shops and filled with soil inside it. The soil is filled till the tyre becomes hard. Wood/ bamboo logs are nailed into the tyre as support. the op surface is finished using poured earth to convert it into a seating space.

ENTRANCE ARCH

The entrance to the base camp is made using a bottle arch and brick. Used beer bottles are cleaned and built as an arched structure using mud mortar as the binding material over the brick masonry basement.

TOILET

The toilet structure is built with minimising the material usage. The basement made of CSEB is plastered and bamboo columns are erected as structural supports. Single layer of cement fibre board is fixed as partition walls. A thatched roof is placed over the bamboo columns. Coconut tree leaves are weaved to form the outer surface of the roof.

SEPTIC TANK

The septic tank is constructed using filler slab Technology. the pit is dug using local labour and old Mangalore tiles are used as filler materials and rubber tree logs were used as shuttering panels.

COST CHART

Cost-effective construction involves using strategies that minimize the overall expenses of a building project while still meeting the required standards. One way to achieve this is by utilizing affordable building materials that are readily available in the local market. Another way is to streamline the building process to reduce labor costs and optimize resources

ITEM	COST(In Rupees)			
	BASE CAMP (387 sqft)	*ATTICS HALL (465 sqft)*	*ATTICS HUT (21 sqft)*	*TOILET (230.6 sqft)*
Foundation	45511	54684	25638	27118
Basement	34133	41013	19227	20340
Wall	56000	36634	12817	35600
Roof	57778	1,00,066	51,275	32200
Finishing	34134	41013	19227	20337
Septic tank				6000
Total	RS.227556	RS.273410	RS.128184	RS.141595
GRAND TOTAL	**RS.7,70,745 /-**			
TOTAL AREA	1300 SQ FT			
RATE PER SQ FT	Rs 593			

"As an architect you design for the present, with an awareness of the past, for a future which is essentially unknown."

– Norman Foster

CATEGORY : 2

New and Innovative Town Design Solution / Eco-Cities

Urbanization is inevitable and desirable but throws many challenges. For cities to be engines of growth, they need to be vibrant, sustainable, inclusive and appropriate to the specific demographic, cultural, functional and physiographic demand of the people and the place.

It is imperative that we create futuristic smart cities without ignoring streetscape, public spaces such as marketplaces, parks, sidewalks, streets and also upgrade degenerated urban spaces to become centers for providing opportunities to the aspiring Indians without compromising the tenets of sustainable development.

"Recognizing the need is the primary condition for design."

– Charles Eames

Category 2

New and Innovative Town Design Solution / Eco-Cities

Project

Brushstroke of Happiness-

Tactical Intervention at Premnagar Vasaahat, Pune, Maharashtra

By

Studio Infill & SMEF's Brick Group of Institutes, Pune

SPECIAL MENTION

The slum population in Pune city (India) is more than 1.2 million people at a density of 2398.5 persons/ hectare (ESR:2016-17). Getting a breathable open space is a challenge in these areas.

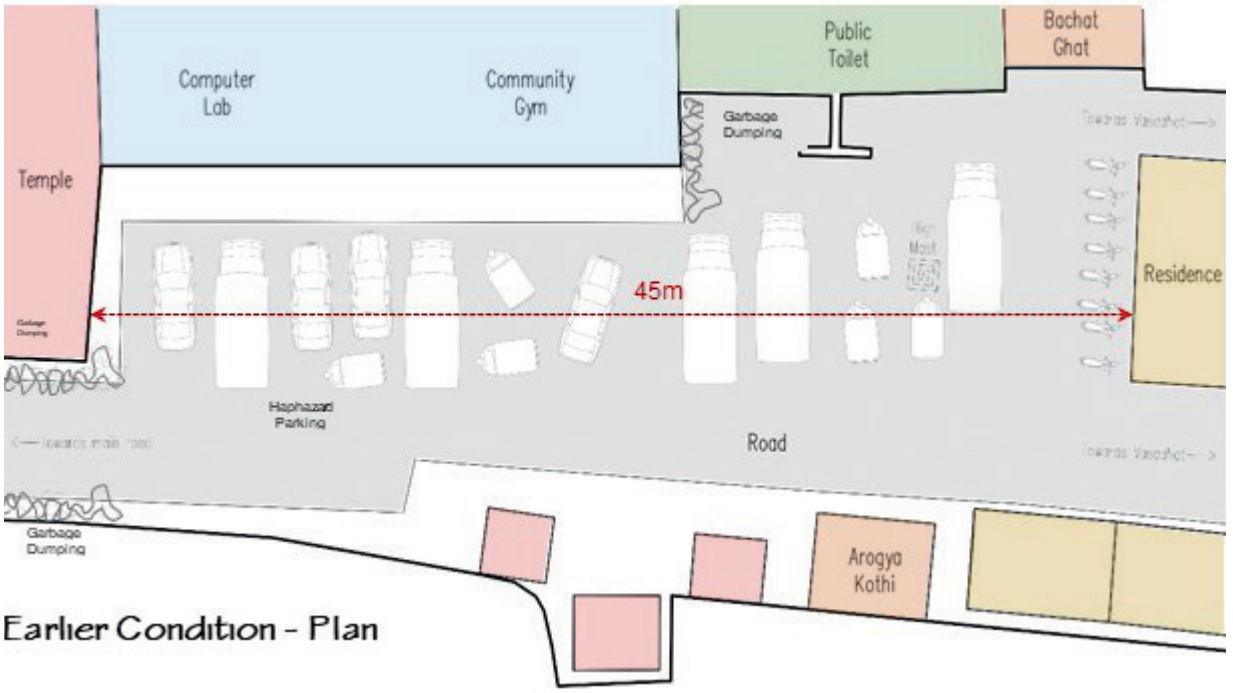
'Brushstroke of Happiness' is an attempt to transform an abused parking area in a slum, to a vibrant and clean public space for children to play, interact, and collectively grow. This intervention transformed a 7,010 sqft street space that was earlier underutilized, used for parking and garbage dumping into a public open space. Earlier, being an inactive, shady space, it was a hotspot for unsocial activities of alcoholics and drug addicts. It was unsafe for women and children, leaving no space for them to recreate and socialize in the neighbourhood.

The project aimed to give the space rightfully back to its people as a clean, safe, inclusive, and vibrant public space. The idea was to demonstrate the potential of the space through a quick, low-cost, community-based intervention leading to a permanent public space for the locals.

BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAAHAT, PUNE

Site context and access road

Open spaces around the site

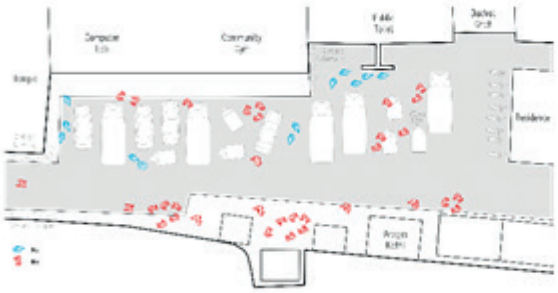


Earlier Condition - Plan

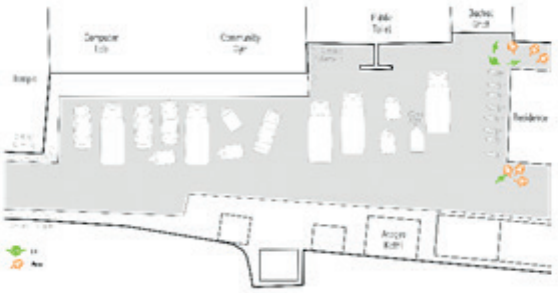
Premnagar Vasaahat is a slum situated near a vegetable market, in the Indian city of Pune. It is an open space located at the beginning of the slum. It is around 7010 sqft in area and is surrounded by public buildings like temple, public toilet, health clinic etc. The open space earlier was used as a parking lot. It was thronged by tempos & autorickshaws parked throughout the day. Vehicles were haphazardly parked blocking the entrance of the temple, computer room and community gym. It created a blank spot triggering garbage dumping and unsocial activities.

Tactical urbanism refers to design solutions that are quick and low-cost and that aim to bring larger, neighborhood-level impacts. Such projects offer a way to gain public and government support for investing in permanent projects.

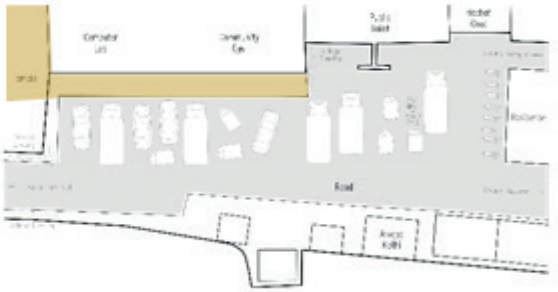
BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAAHAT, PUNE



Activity Mapping – Boys & Men



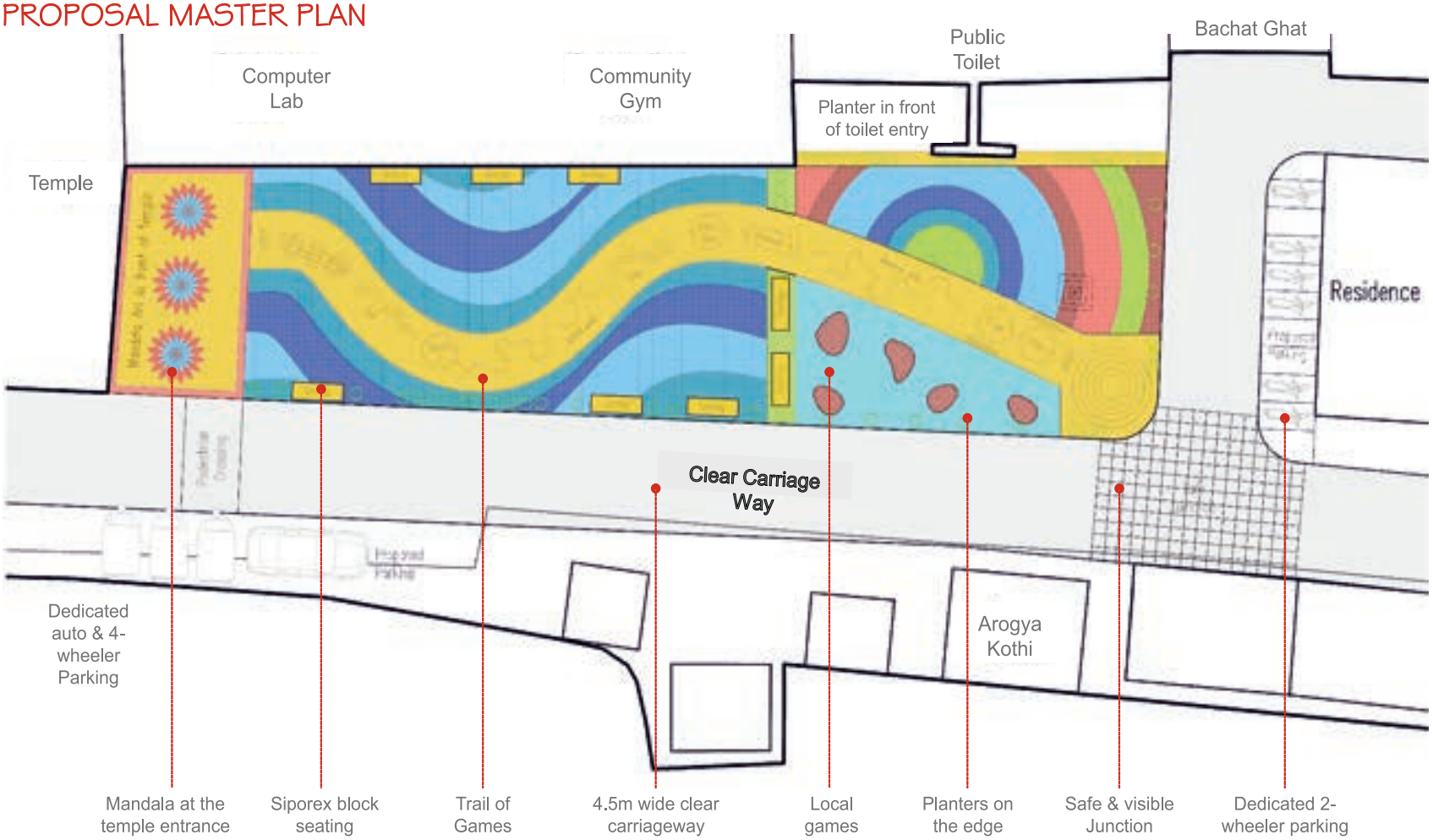
Activity Mapping – Girls & Women



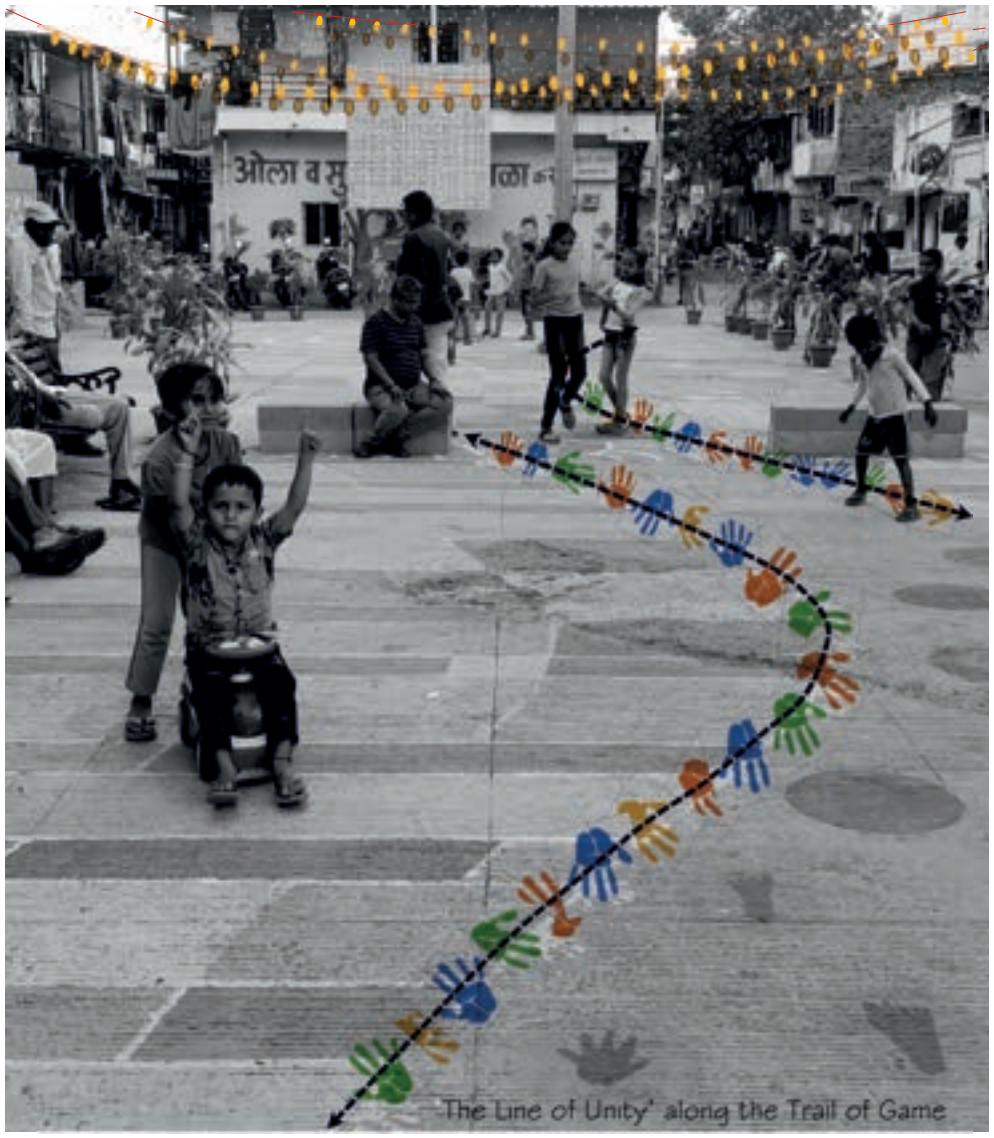
Blank spot promoting unsocial activities

The space being used for parking is majorly occupied by men. Due to heavy parking leading to poor visibility, the space also becomes a hotspot for unsocial activities of alcoholics and drug addicts. This creates an unsafe scenario for women and girls to frequent the space. The gender gap in the usage of the space can be seen in the following graphics. Moreover, due to the lack of open space in the locality, the children are forced to play in the tight space between the parked vehicles.

PROPOSAL MASTER PLAN



BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAHAT, PUNE



'The Line of Unity' along the Trail of Game

A volunteer helping children to make 'The line of Unity'

Active participation of Premnagar Vasaahat children throughout the process

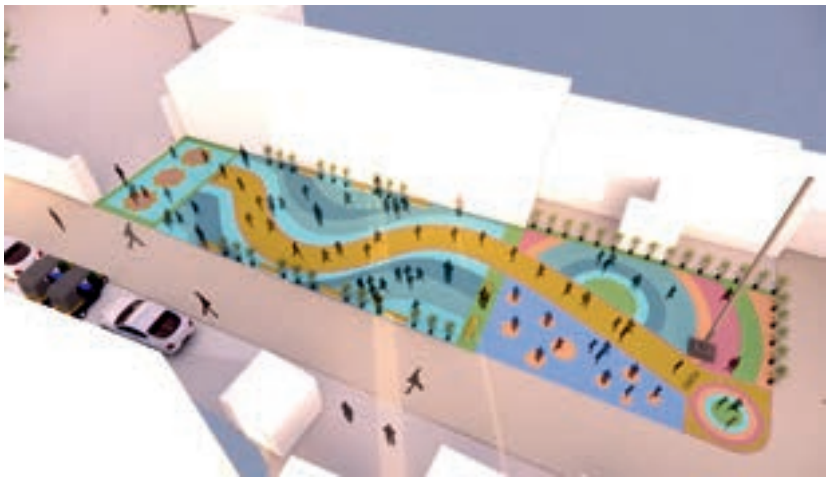
BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAAHAT, PUNE

UN Goal 11 - Sustainable Cities and Communities, states that by 2030, provide universal access to safe & inclusive, green public spaces, in particular for women, children and older persons. The project is in alignment with this goal. With the initiative, the children got a space to play, grow collectively and came out in large numbers, especially girls. PLAY IS A SERIOUS AFFAIR and is crucial for their balanced development affecting their physical and mental health. The kids claimed ownership of the space and took care of the space once it was opened to the public.

Also, the space became active and well-lit, eliminating the nuisance of alcoholics and drug addicts. Thus, the space became safer for children and women. Such spaces empower them to freely express themselves. With ample seating, the space became a respite for the elderly, to meet friends and spend time with children. The space witnessed a tremendous response, particularly from these user groups, and became a space to CELEBRATE PUBLIC LIFE.

BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAAHAT, PUNE

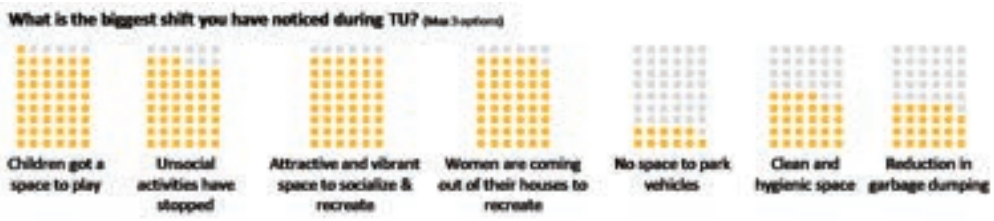
Earlier condition - Activity mapping

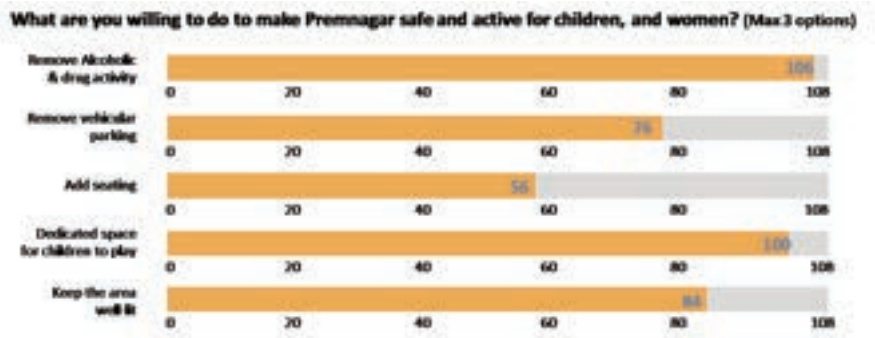


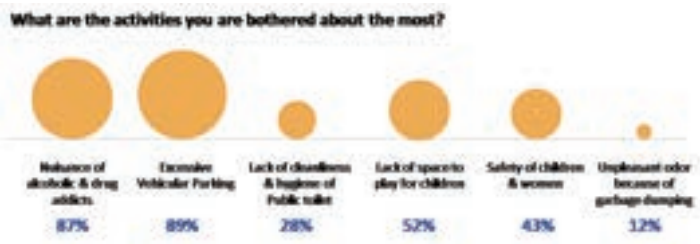
During TU - Activity mapping

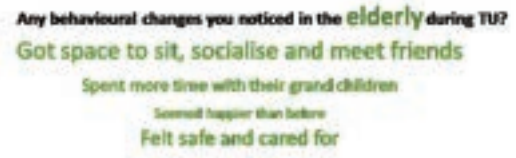
BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAAHAT, PUNE

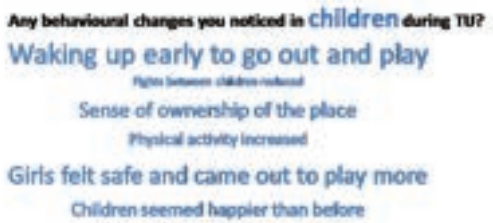
PROJECT ASSESSMENT

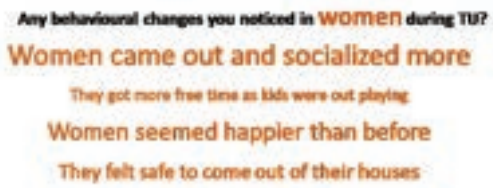












BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAAHAT, PUNE

"I got this toy as a gift on my last birthday. My mother had kept it in the storage since I didn't have space to play.
Today I can't stop myself playing with this toy at this place"

"Earlier, only boys used to play at this place & we, girls didn't have any space to play.
Today, we can play here freely & safely. I wish that this space remain the same forever"

"Earlier, because of the lack of space, we used to fight with each other & hurt ourselves.
Now, we have enough space where we all can play together without any disturbance. During the process, we enjoyed painting the floor

"I have grown up in this Vasaahat. When I was young, we didn't have space to play.
I am glad that these kids got the parking-free space to play"

"I use to fear leaving my young daughter outside the house to play.
Now, since the space is vibrant and active, we both like to go out to play and meet friends"

With the overwhelming response from the locals, the intervention positively triggered the discussion amongst the decision-makers for reclaiming the space permanently as a public open space, thus fulfilling the aim of the intervention. With the new design and discussion under process, the space is still being used as a play area for kids and a seating area for senior citizens.

BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAAHAT, PUNE


Claim


Reclaim


Recreate

This TU intervention is a good example of how an abused parking lot was converted into a temporary recreational space leading to a permanent public insert. **Demonstrating a positive impact, such quick, low-cost creative projects offer a way to gain public and government support for investing in permanent projects.**

TRANSFERABILITY AND UPSCALING

The proposed solution is about creating public spaces while **optimizing the use of available land.** With numerous slums in our cities that are devoid of clean public spaces, such low-cost solutions can be implemented in any marginalized neighbourhood.

The project has garnered acclaim from the civic authority and press media, opening avenues for future such projects. With demands from public representatives, Studio Infill is planning similar initiatives in association with other architecture schools. Often, the poor and the vulnerable sections of society are devoid of open spaces and equitable access. These initiatives will be located in or around slums, **in line with the World Habitat Day theme, 'Mind the gap, and leave no one and no place behind.'** The initiatives will be tested as TU, with an aim to bring larger, neighbourhood-level impacts.

The space was received with a lot of excitement and joy by the locals who were actively involved throughout the process.
Lasting for over ten days, **the intervention cost was 42,000 INR.** Though the project was targeted to all the age groups of the slum, it was a much-needed initiative for the vulnerable user group which is children, women, and senior citizens.

Project Video:
https://www.youtube.com/watch?v=BGZw3ZYfjN8&t=3s

BRUSHSTROKE OF HAPPINESS – TACTICAL INTERVENTION AT PREMNAGAR VASAAHAT, PUNE

CATEGORY : 3

Conservation of Heritage

India has a rich, diverse and extensive repository of precious built heritage which is reflected through a large number of ancient and archaeological sites, monuments and human settlements. Many of these sites / monuments are listed by the Archaeological Survey of India and United Nations Educational Scientific and Cultural Organization (UNESCO).

A comprehensive approach to heritage management that demonstrates economic efficiency, creative vigor and people's participation is the need of the hour. The task of the professionals is not limited to integration of the built heritage with the urban planning/ development framework but also to exclusively promote and practice conservation, restoration, regeneration and management of valuable built heritage. The creative abilities of professionals in this area can definitely demonstrate that development and conservation can co-exist.

"There are 360 degrees, so why stick to one?."

– Zaha Hadid

Category 3

Conservation of Heritage

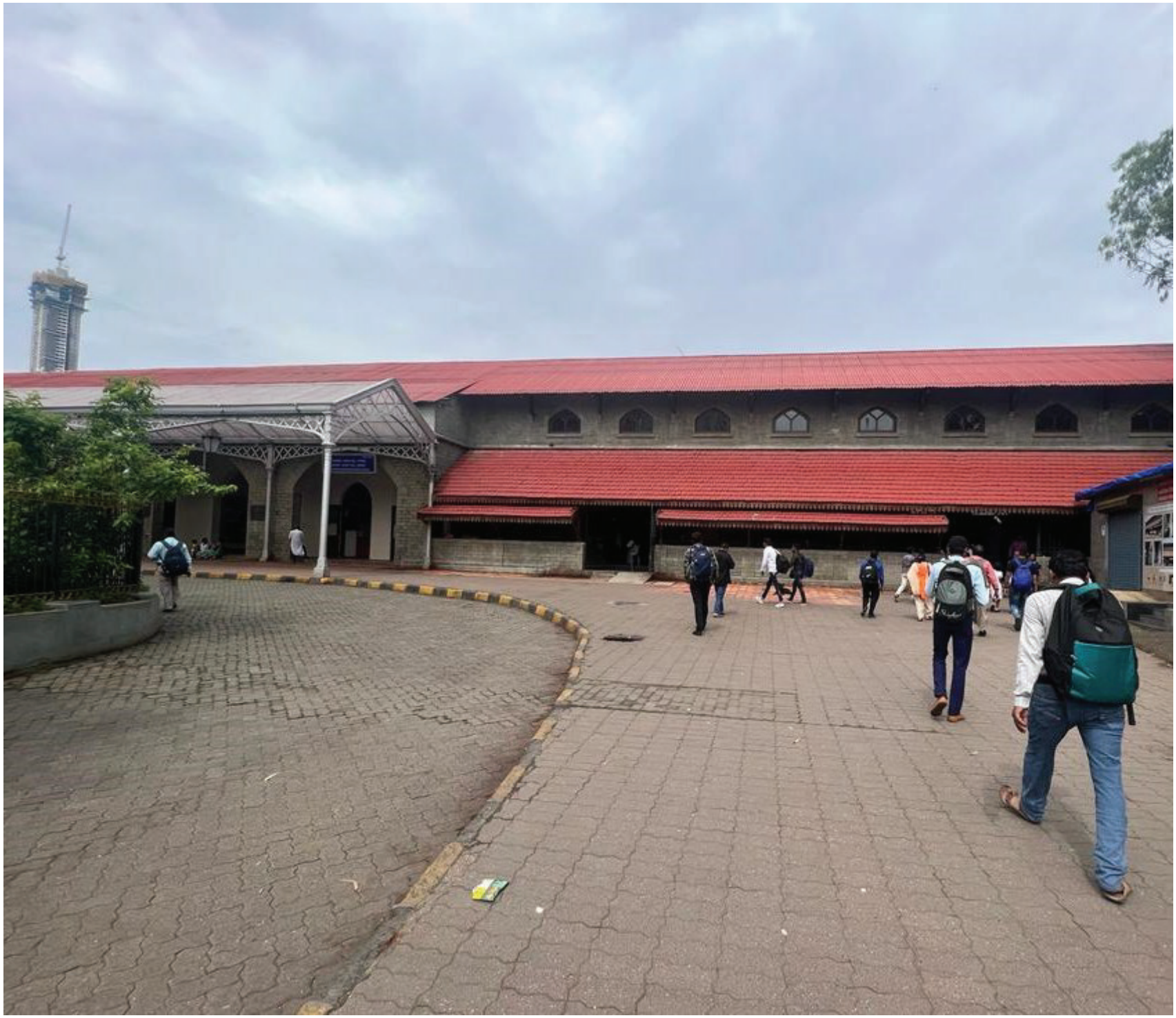
Project

Restoration of Byculla Railway Station, Byculla, Mumbai, Maharashtra

By

Abha Narain Lambah Associates

FIRST PRIZE



Exterior façade of the station building after restoration with original Gothic details

RESTORATION OF BYCULLA RAILWAY STATION, BYCULLA, MUMBAI, MAHARASHTRA

RESTORATION OF BYCULLA RAILWAY STATION

Byculla railway station, inaugurated in April 1853, falls on the Bombay -Thana railway line under the Great Indian Peninsula railway. The original station was a wooden structure constructed in 1857, which was later moved further north to its current location and a stone building was constructed between 1887 to 1891, making it one of the oldest stations in India. Tucked in within a heavily industrial region of Byculla, the station is designed in the Victorian Gothic style of Architecture and has a more local design contextually as compared to its ornate counterparts. The building is a designated Grade II-A heritage structure, under the Heritage Regulations of Greater Mumbai, 1995.
Over the years the 135-year-old structure had faced deterioration with age, making the building fabric vulnerable to leakages, structural deterioration, peeling plaster, wood deterioration and neglect with little or no maintenance. Yet, the building continues to function as one of the busiest railway stations on the Central Railway route receiving a high footfall count every day.

In 2019 the non-government organization 'I LOVE MUMBAI' spearheaded by Ms. Shaina NC and conservation architect Abha Narain Lambah decided to volunteer towards saving the historic Byculla Railway Station that caters to a large section of the inner city population of Mumbai. They decided to develop a citizen funded approach for restoring Byculla railway station and approached Mrs. Minal Bajaj, of the Indian corporate house the Bajaj Group to join them in this initiative to restore India's oldest railway station. Through a citizen driven conservation project initiated by three women from the city – they approached the Central Railways to sign an MOU whereby the railways would allow them to conserve their historic station building. The project was envisioned to be a prototype for restoring and upgrading historic station buildings across the country through community support.

Exterior Façade- Before Restoration

Exterior Façade- After Restoration

RESTORATION OF BYCULLA RAILWAY STATION, BYCULLA, MUMBAI, MAHARASHTRA

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Exterior Façade- Before Restoration

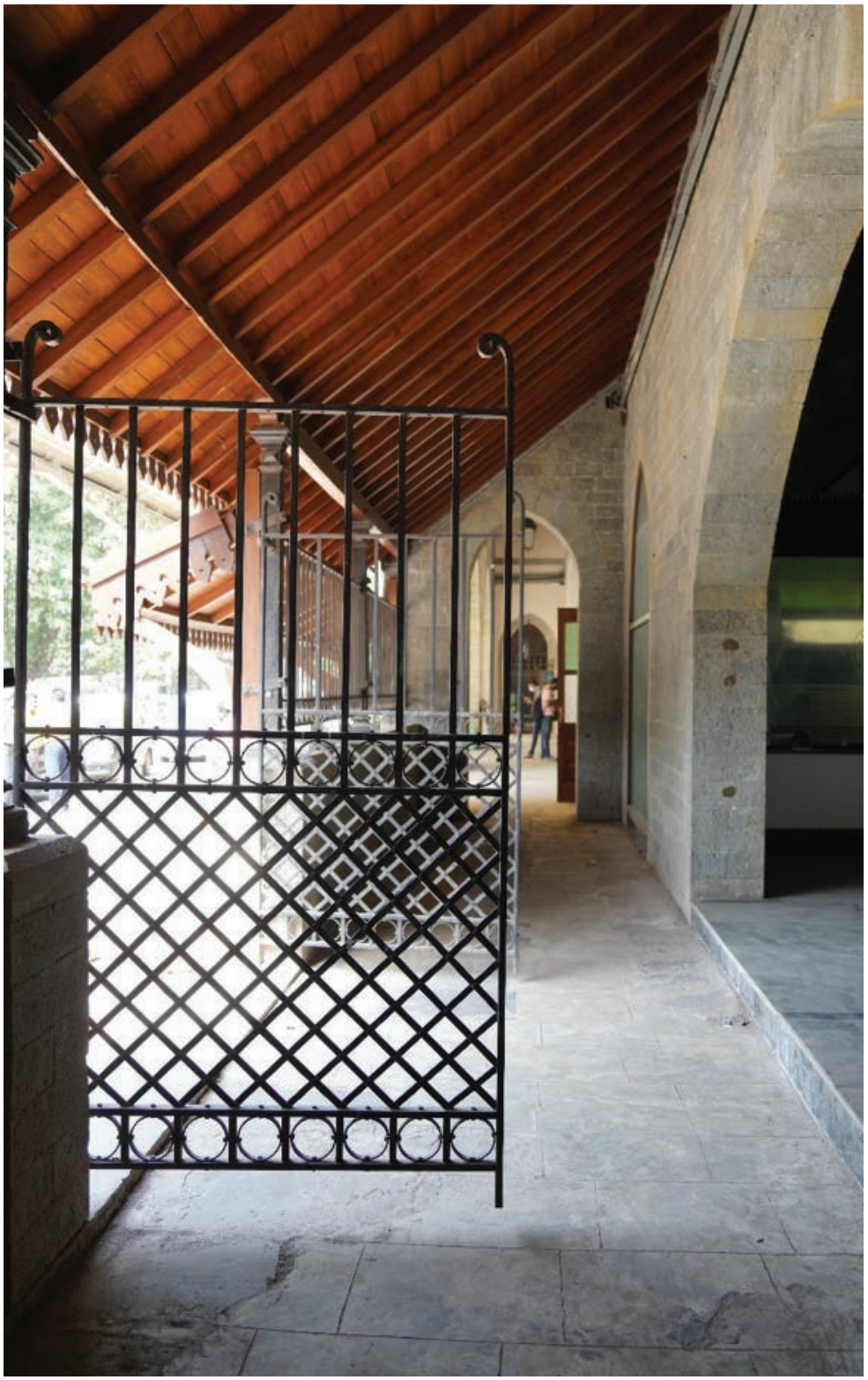
Exterior Façade- After Restoration

RESTORATION OF BYCULLA RAILWAY STATION, BYCULLA, MUMBAI, MAHARASHTRA

RESTORATION OF GATES AND GRILLS IN THE VERANDAH

The station building is set back from the main street with a cast iron porch and stone façade. In a manner evocative of tropical colonial architecture, the historic station building is a linear structure with a long verandah that runs along the entire length of the west facade. This architectural feature provided ventilation and minimized the heat. The verandah has a low sloped lean-to double roof with a double level roof. The upper level verandah roof is supported on cast iron posts supported on basalt stone walls; and cast iron railings are inserted in-between the posts. The lower level verandah roof was supported on carved wooden brackets attached to the cast iron posts.

The entire front verandah along the west wall was also blocked with brick infill. Staff toilets were located in the front verandah very close to the staff workstations and their service pipes would open out onto the front façade of the building. These ad-hoc additions were hampering the primary façade of the building and hence it was very important to clear these additions from the verandah and re-organize the interior office spaces. The re-organizing and improving the interior space utilization, while ensuring adequate office space required two pointed Gothic arches to be closed.



Front verandah with lean-to Mangalore tile roof after restoration

CITIZEN SOCIAL RESPONSIBILITY INITIATIVE FOR RESTORING A LOCAL LANDMARK

In 2016, Central Railway had plans to demolish the historic structure and re-construct it in order to augment two additional railway lines. This plan was delayed and in 2019 the NGO 'I LOVE MUMBAI' spearheaded by Ms. Shaina NC, approached conservation architect Abha Narain Lambah to develop a proposal for restoring Byculla railway station. Bajaj Group and Jamnalal Bajaj Foundation have generously came forward to fund the project and the conservation architect Abha Narain Lambah has done this project pro-bono as their social responsibility initiative.

The project is unique wherein the core goal of the three partners in the joint venture was to give back to the city without seeking any financial benefits. The successful completion of this project has reinstated that heritage buildings are adaptable and resilient and do not need to be demolished to accommodate modern and technological interventions. It has also highlighted the importance of buildings that have played a crucial role in the development of smaller pockets of the city and are of local significance. It has also highlighted the importance of railway history and propelled the conservation and upgradation of other such station sites across the country. The humble project was inaugurated by various prominent dignitaries which has fostered the involvement of private and public entities to support the cause of heritage conservation.

Front entrance hall after restoration with historically appropriate light fixture

RESTORATION OF VERANDAH

Cast iron elements in the form of an exterior railing, signage brackets and a ticket window grill were discovered on site during the process of restoration. These elements were recreated using the traditional technique of making a detailed design followed by creating an inverse formwork to cast the metal and then finishing the final product all done by employing manual labour and reviving artisan fabrication workshops that is a fading practice. With the application of these techniques, skilled and traditional craftsmen and under the guidance of the conservation architects, we were successful in achieving the desired workmanship.

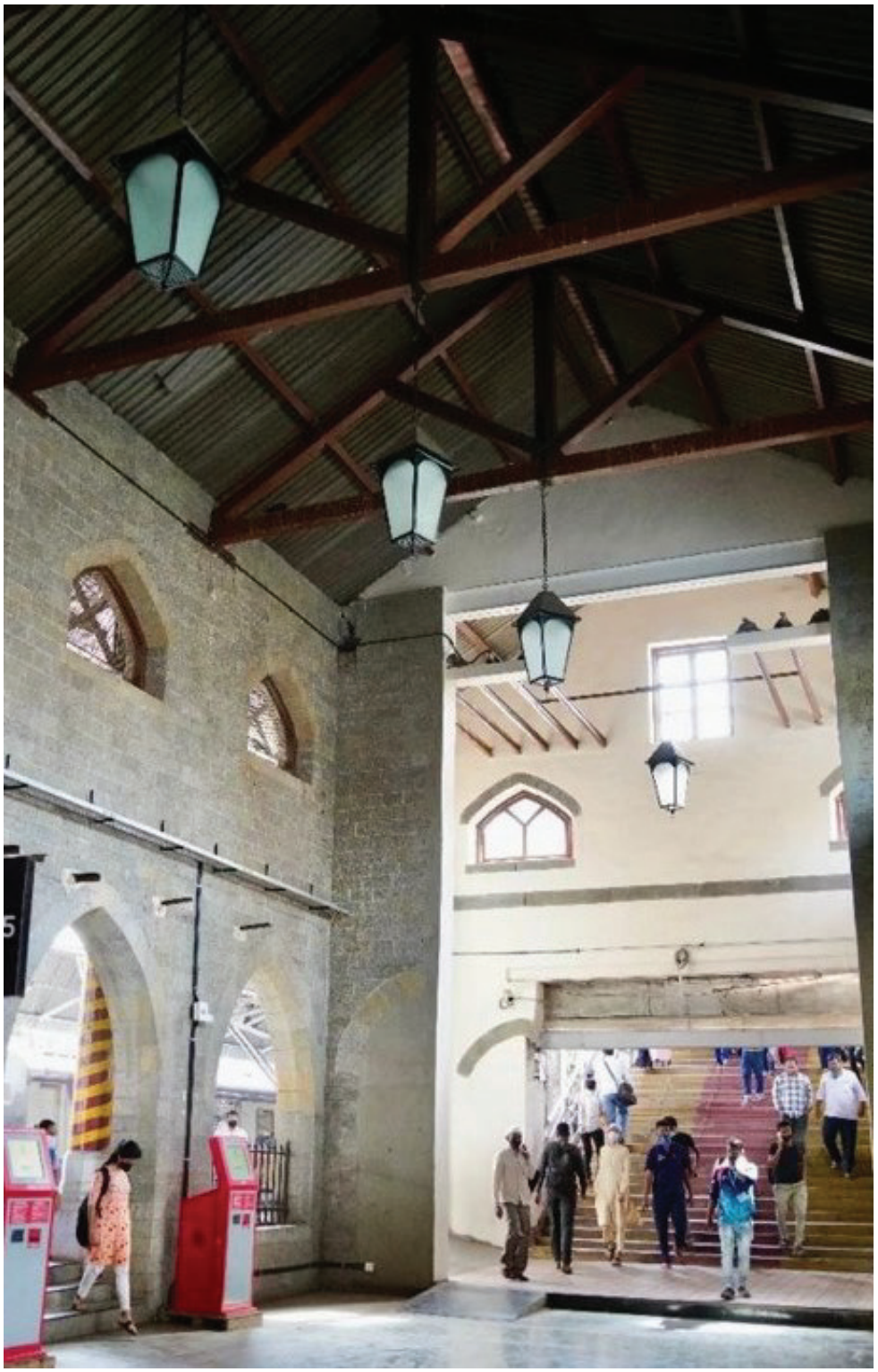
Individual railway offices in the building had their own signages which were made of acrylic and hung on the centre of the door fanlight. The design of the signages were incongruous with the historic character of the building and were difficult to read. Few of these signages retained their original cast iron brackets. The missing brackets were recreated and the signage were replaced with a simplistic teak wood plank suspended from the cast iron bracket that would accentuate the façade. The signages were finished with bi-lingual acrylic letters pasted over polished teak wood planks. The signages were placed away from the entrance but at an appropriate height to improve its legibility. This addition makes the station staff offices more approachable to commuters.

The original exposed basalt stone façade that was covered with layers of paint was revealed during the restoration process. Historic handi lights installed in the verandah

RESTORATION OF TIMBER TRUSS AND ELECTRICAL UPGRADATION OF THE CONCOURSE

A coloured glass fanlight in the large concourse hall was blocked with corrugated galvanized sheets with a ticket counter in front of it. The insensitive additions were removed and entire arch was opened up. The coloured glass fanlight was restored whereas the ticket counter was reduced in height and mass. This has improved the visibility of the historic fanlight from the ticket counter and improved on the readability of the architectural features on the building.

The ventilation in the large halls and concourse areas is done using energy saving industrial ceiling fans. Such techniques have helped in reducing the carbon emissions from the site. The double height spaces are now fitted with high-efficiency LED high-bay light fixtures that use innovative chip on board technology to ensure effective thermal management. These interventions improve the visual aesthetics of the building and enhance the appreciation of the site thus making the historic building more resilient.



Double height concourse with teak wood trusses and exposed Kurla Basalt stone

RESTORATION OF HISTORIC TICKET WINDOW

The historic ticket window had a high wood panelled counter with a marble top and decorative cast iron ticket window grill inscribed with the initials GIPR (Great Indian Peninsula railway). The entire ticket window was inset within a pointed Gothic arch and a coloured glass fanlight. All doors, windows and ventilators had teak wood frames. The fanlights had traces of coloured glass and the doors have decorative quatrefoil paneling.

The fanlight was blocked and the historic grill and marble top were damaged. These elements were recreated using the traditional technique of making a detailed design followed by creating an inverse formwork to cast the metal and then finishing the final product all done by employing manual labour and reviving artisan fabrication workshops that is a fading practice. The application of these techniques the project employed both skilled and traditional craftsmen and under the guidance of the conservation architects were successful in achieving the desired workmanship.

Restored original cast iron grill with the initials GIPR (Great Indian Peninsula railway).

RESTORATION OF HISTORIC TICKET WINDOW

Original cast iron grill and high panelled teak wood ticket window with colored glass fanlight set within a pointed Gothic arch after restoration.

RESTORATION OF BYCULLA RAILWAY STATION, BYCULLA, MUMBAI, MAHARASHTRA

Exposed basalt concourse façade with restored teak wood doors and cast iron bracket signage.

RESTORATION OF BYCULLA RAILWAY STATION, BYCULLA, MUMBAI, MAHARASHTRA

"A nation's culture resides in the heart and soul of its people."

– Mahatma Gandhi

Category 3

Conservation of Heritage

Project

Restoration and Renovation of MATRINIKETAN
(earlier known as Academy House), Pondicherry

By

A. Arul, INTACH Pondicherry

SECOND PRIZE

BEFORE RESTORATION

AFTER RESTORATION

LOCATION MAP

PREAMBLE

Pondicherry has an interesting cross-cultural history and its built form is one of the major components lending a unique identity to the town. The old town of Pondicherry, boulevard town, which is a showcase of the two distinct architectural styles-french and Tamil is recognised in principle as a conservation zone by the government of Pondicherry.

Pondicherry does not have a large number of monumental buildings but is noteworthy for its local architecture. The term heritage is a fluid term constituting a diverse array of elements from individual buildings, to entire precincts of towns, monuments, artifacts, structures, even parks, gardens and landscapes. Heritage is about the value people attached to places and creating local identity and distinctiveness.

AGE	:	MID -19TH CENTURY
OWNERSHIP	:	PRIVATE
OCCUPANCY	:	SINGLE OWNER
HISTORIC USE	:	SOCIAL GATHERINGS
CURRENT USE	:	CULTURAL ACTIVITIES
TYPOLOGY	:	RESIDENTIAL
COMPLETED YEAR	:	2022

The building comprises of three blocks. The block a which is the academy building was completely restored in the year 2022.
Currently,
The restoration of block b is in progress.
The restoration of block c yet to start.

"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY

EXISTING SITE PLAN

PROPOSED SITE PLAN

HISTORIC SIGNIFICANCE

This building was used for organising political meetings and other social gatherings such as Weddings and religious festivals for the fishing Community in the early 20th century.

ARCHITECTURAL SIGNIFICANCE

The academy building is a 19th century building. It displays Tamil features such as a Thalvaram on the front, one golden leaf ornamented door with Hindu figures, a traditional ground floor, with a typical 12 wooden columns mutram. There is also western influence, with an iconic columned veranda on the front and the upper floor wall plasters decorated with floral motives. In the main building, a large room looks like a dancing hall. On a whole , a conspicuous synthesis of two varying styles has happened which has resulted in the interesting franco tamil architectural style.

SOCIAL SIGNIFICANCE

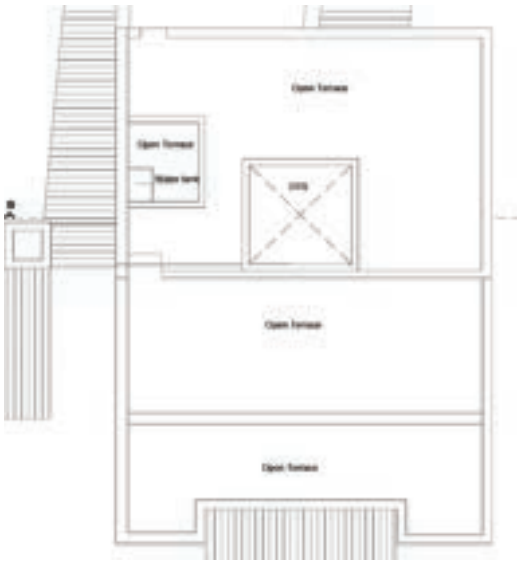
The massive building was a clear sign of power. The French style of the dancing hall suggests a very active social life where the french officials also participated. The large hall at the western side came in handy for organising political meetings and other social gatherings such as weddings and religious festival, which could be used to control the fishing community.

BUILDING-A RESTORED IN 2022
BUILDING-B UNDER RESTORATION
BUILDING-C YET TO BE RENOVATE

"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY

GROUND FLOOR PLAN

FIRST FLOOR PLAN



TERRACE FLOOR PLAN

EXISTING

GROUND FLOOR PLAN

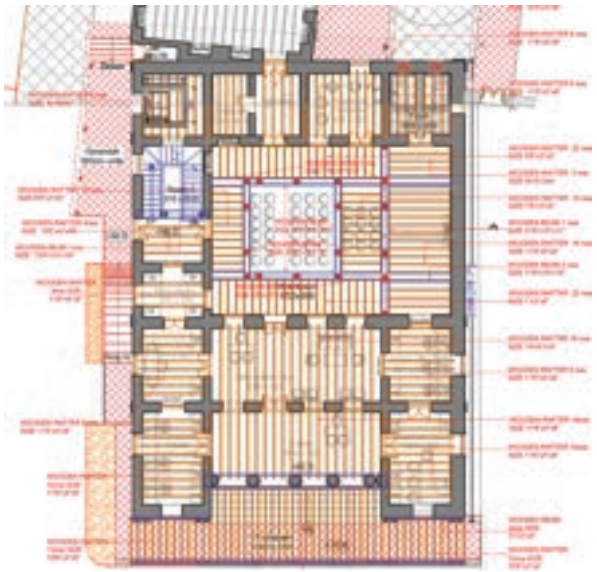
FIRST FLOOR PLAN

TERRACE FLOOR PLAN

ROOF FLOOR PLAN

PROPOSED

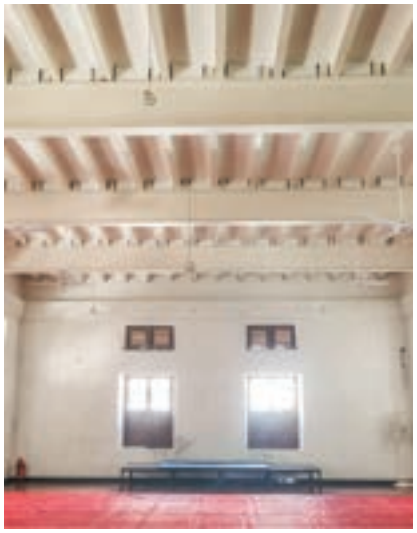
"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY



GROUND FLOOR RAFTER PLAN

FIRST FLOOR RAFTER PLAN

WITHOUT BALCONY ELEVATION



WITH BALCONY ELEVATION

SECTION - AA

SECTION - BB

"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY

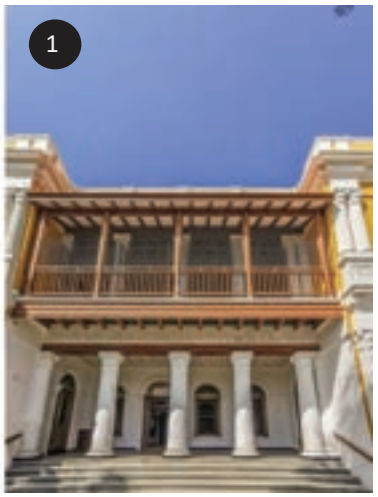
SOUTH SIDE ELEVATION

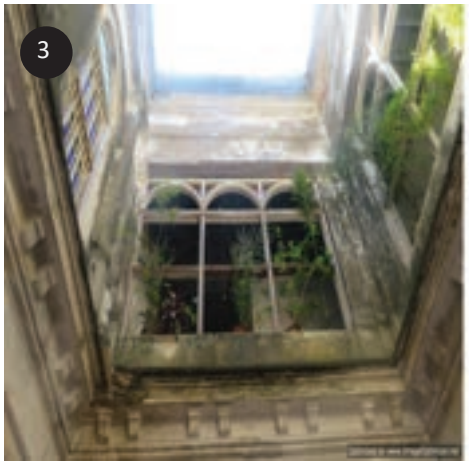
NORTH SIDE ELEVATION

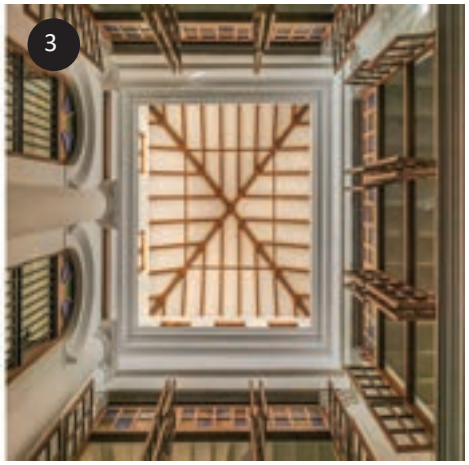
"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY

WORK PROGRESS IMAGES

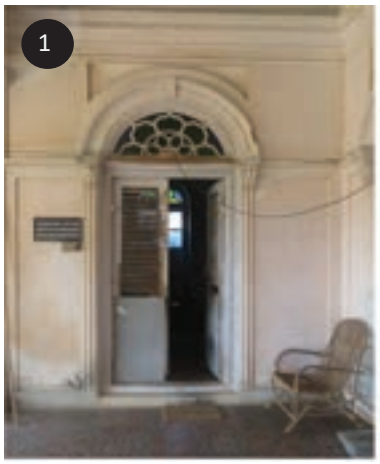
"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY

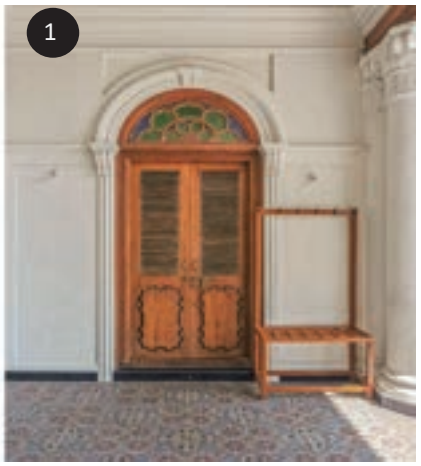


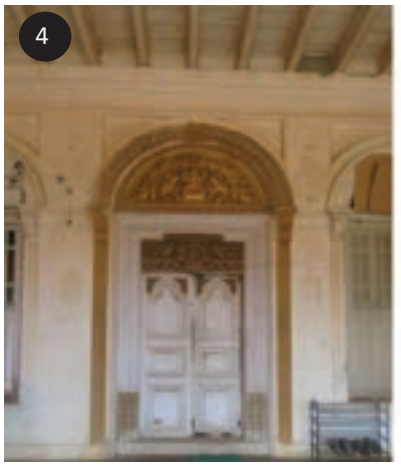




"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY







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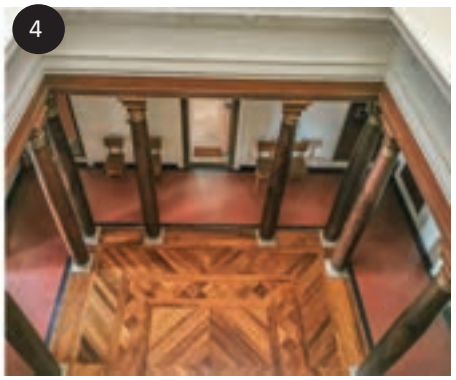
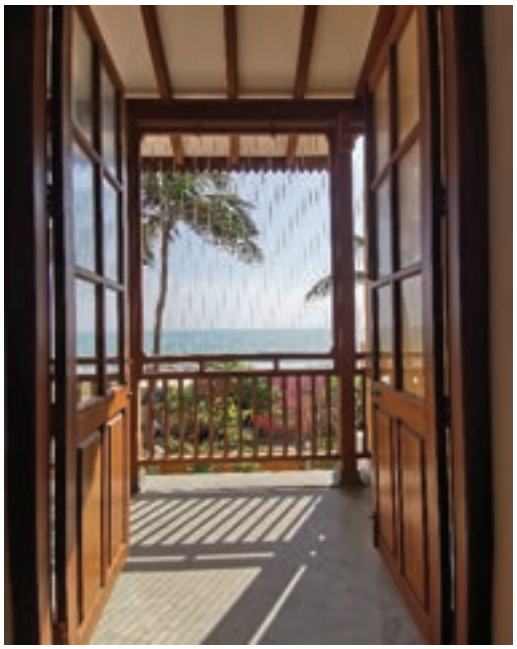
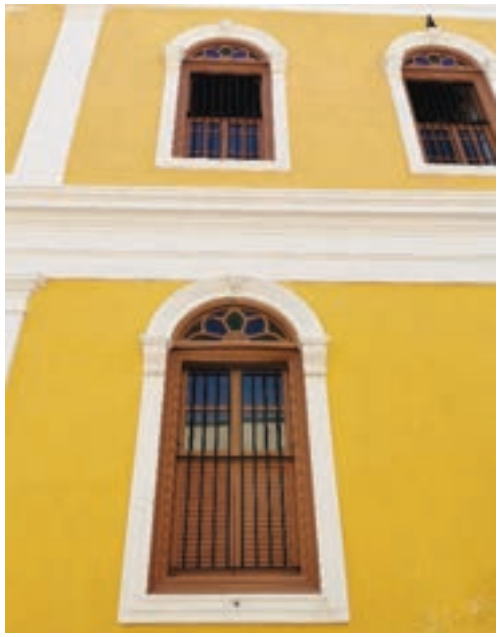


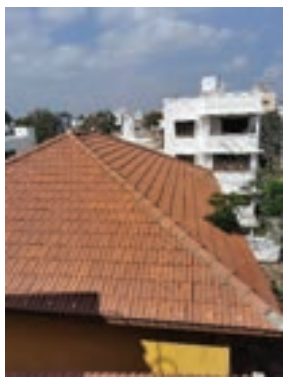
"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY

COMPLETED IMAGES








"MATRINIKETAN" - NO.34, MARAVADI STREET, PADMINI NAGAR, KURUCHIKUPPAM, PONDICHERRY

"People ignore design that ignores people."

– Frank Chimero

Category 3

Conservation of Heritage

Project

Restoration of Mohabeer Dharmasala, Rameshwaram, Tamilnadu

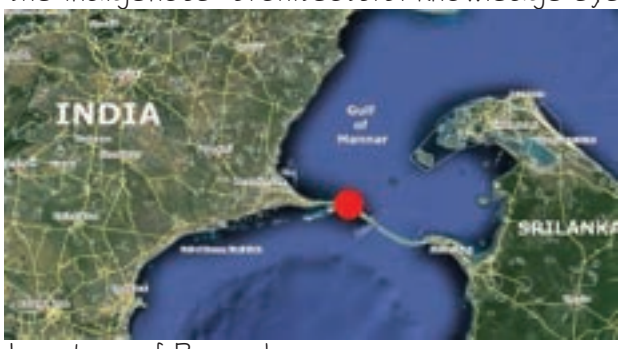
By

G. Asaithambi

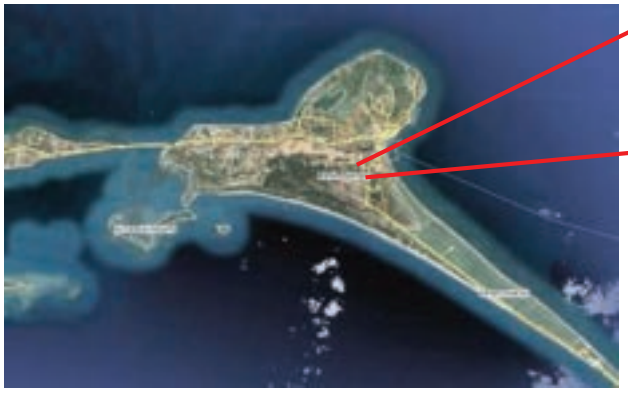
SPECIAL MENTION

MOHABEER DHARMSALA

Rameshwaram, located at the South-Eastern tip of the Indian peninsula, is one of the important spiritual centers in Tamil Nadu. The history of Rameshwaram is centered around Ramanathaswamy Temple. The culture of the town is a fine blend of religion, natural heritage, legendary myths & stories and much more. Amalgamation of two different kinds of knowledge systems fishing and spirituality makes the town unique and one of its kind. Most of the sacred spaces and the architecture heritage of the town is associated with sacred water body in the town. Today the architecture of the town is degrading due to massive commercial growth owing to tourism. This is also due to a lack of knowledge about the indigenous architectural knowledge systems prevailing in the precinct.



Location of Rameshwaram

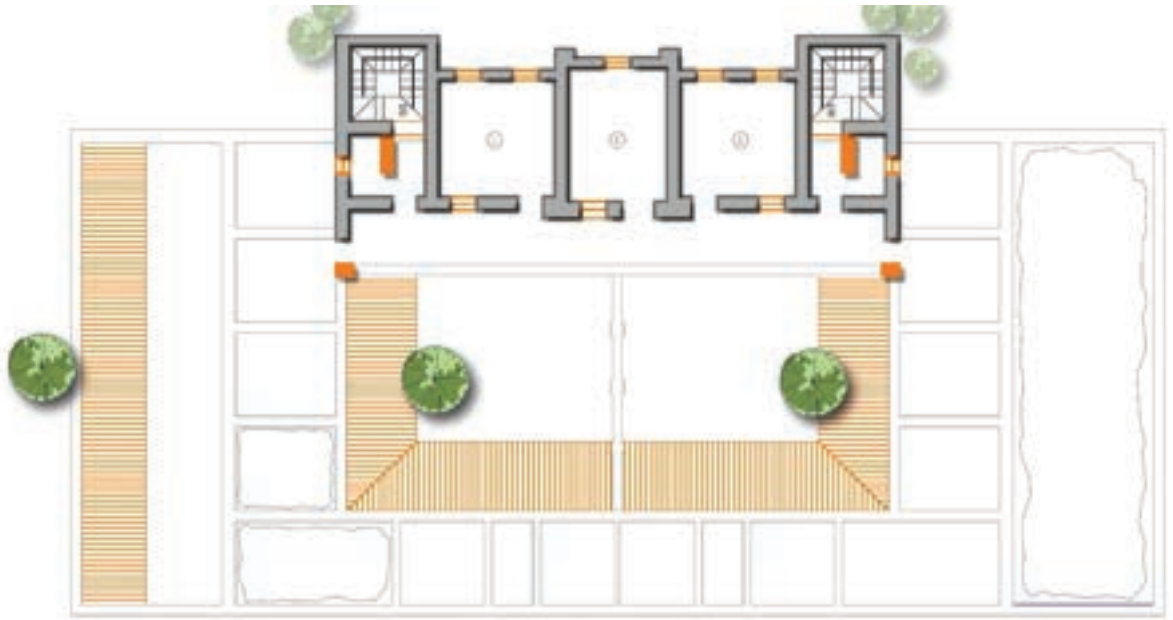

Location of Mohabeer Dharamasala in Rameswaram Island

One of the significant architectural monuments of Rameshwaram is Mohabeer Dharamsala, which has been the former municipal office, refugee camp etc , stands near the railway station deteriorated/ neglected and vandalized. According to the local source this is the only existing Jain Building in Rameshwaram. The building is architecturally unique with its exquisite domes at the entrance, this building can be the eye catcher to any pilgrim visiting Rameshwaram.

The building today has lost all its character and is deteriorated to a greater extent. The building seems to be structurally safe for restoration.

The Proposal is to restore the building using authentic materials and techniques , to its original glory. The restored building will house exhibitions on Archeology, Culture, Ecology and Green Rameshwaram Initiative along with training and skill development halls. The other spatial considerations for the proposal are Information center , Room for publications and Arts crafts, Locker room, Pantry, Caretakers room/guest room. The entire building will be powered using solar energy

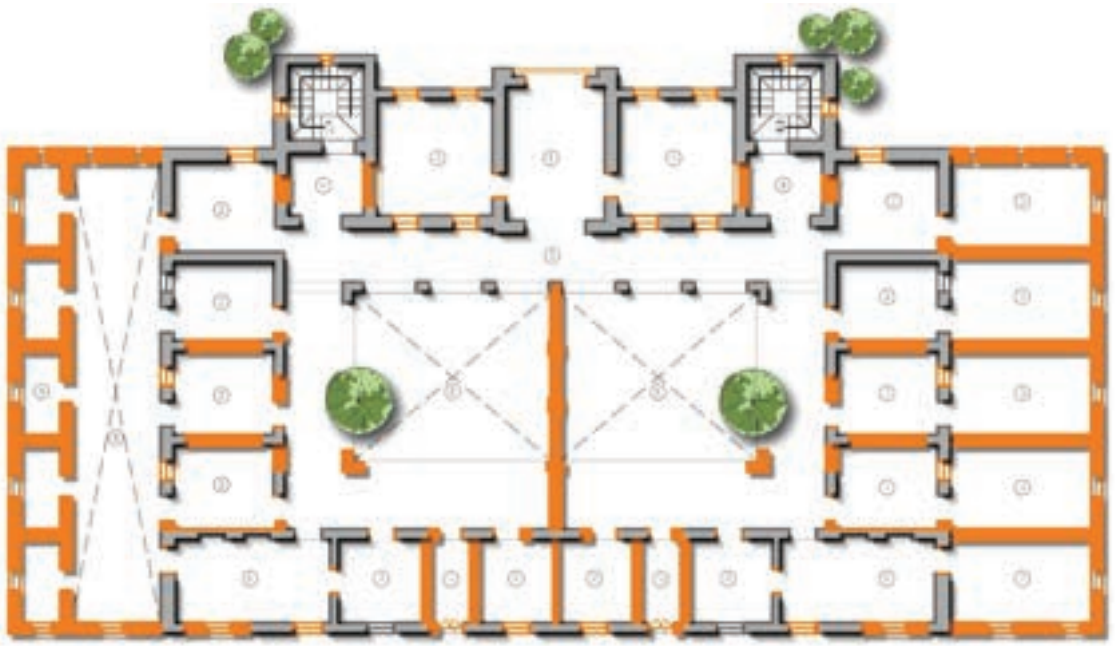
RESTORATION OF MOHABEER DHARMASALA, RAMESHWARAM, TAMILNADU



Legend

Name	Description
	Demolished/ Damaged
	Existing
①	Rooms

Existing -First Floor Plan



Legend

Name	Description
	Demolished/ Damaged
	Existing
①	Entrance Lobby
②	Rooms
③	Room Backyard
④	Entrance to Staircase
⑤	Passage
⑥	Kitchen
⑦	Utility
⑧	Open to Sky
⑨	Toilet
⑩	Coast Guard Police Station

Existing - Ground Floor Plan

Scale : nts

N

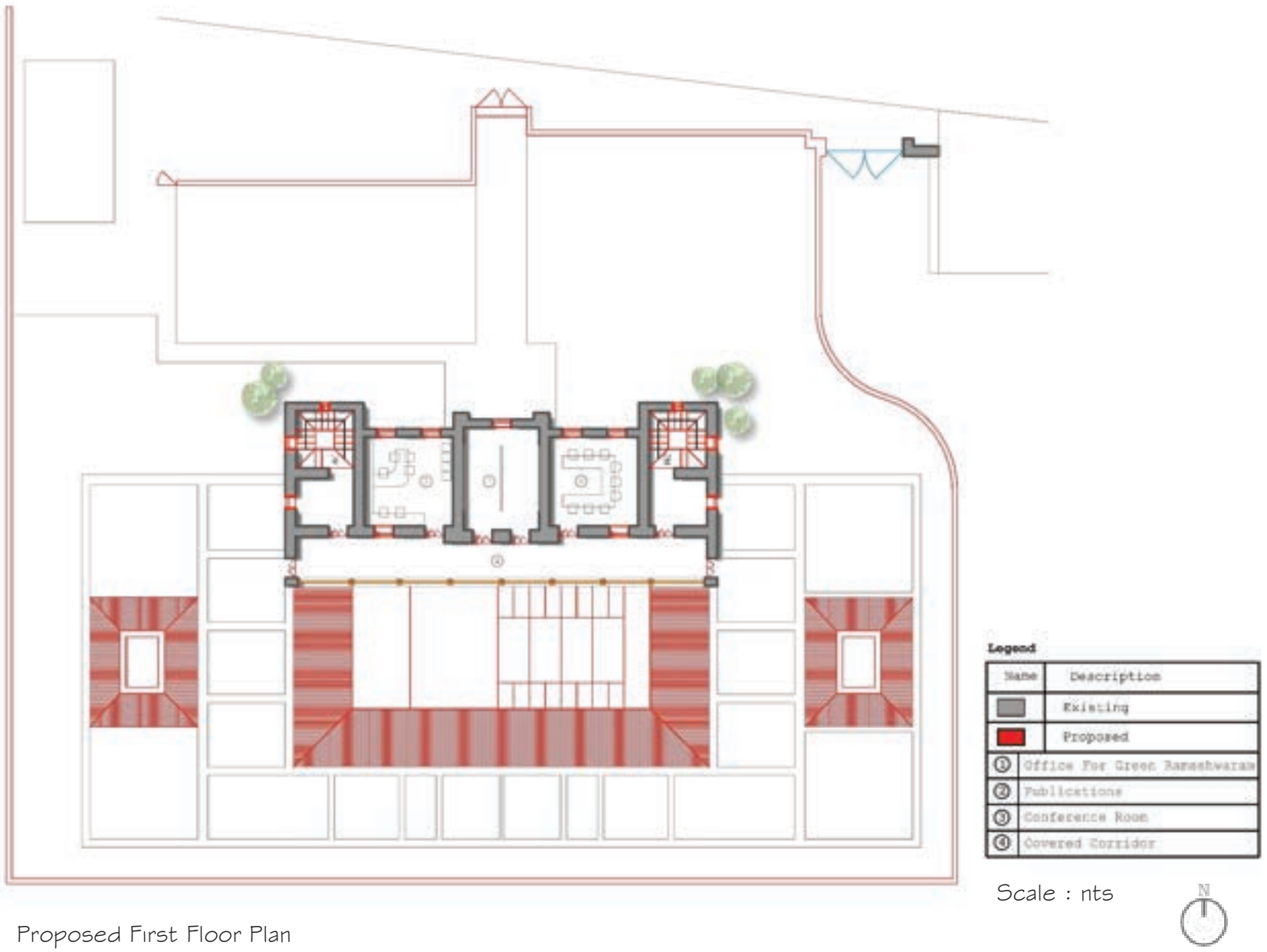
Legend

Name	Description
	Existing
	Proposed
1	Parking
2	Entrance From Road
3	Entrance
4	Entrance Lobby
5	Covered Corridor
6	Cafeteria
7	Store
8	Archeological Exhibition
9	Toilets
10	Training Hall
11	Open To Sky
12	Ramayana Exhibition
13	Green Rameshwaram
14	Own Book Reading Hall
15	Skill Development Center
16	Cultural Exhibition
17	Locker Room
18	Information Center
19	Stage
20	Open Air Theatre

Scale : nts

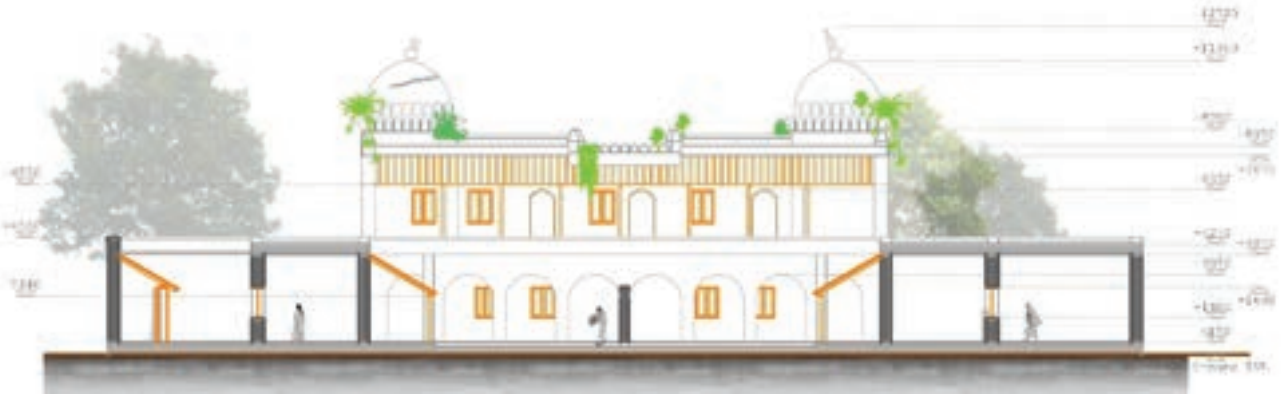
Proposed - Ground Floor Plan

RESTORATION OF MOHABEER DHARMASALA, RAMESHWARAM, TAMILNADU



Proposed First Floor Plan

Proposed – Section AA'



Existing – Section AA'

Existing – Section BB'

Proposed – Section BB'

RESTORATION OF MOHABEER DHARMASALA, RAMESHWARAM, TAMILNADU

FACT FILE

1	Site	Mohabeer Dharmasala, Rameswaram
2	Built-up area	Ground Floor- 762.3 Sq.m (8202 Sq.ft)
		First Floor - 103.8 Sq.m (1116 Sq.ft)
3	Budget	Rs.1,34,50,500/-
4	Foundation	Continuous footing
5	Structure	Load bearing
6	Roof	Madras Terrace Roof
7	Brick works	Country bricks using lime mortar
8	Wall finishes	Lime Plastering
9	Staircase	Precast cantilever steps
11	Flooring	Cement oxide
12	Bathroom Floor	Rough Kota
13	Terrace Floor	Terracotta tiles

Existing images of Mohabeer Dharmasala


Before restoration


Condition of the site before restoration


Condition of the dome before restoration


Ground floor Corridor Before restoration


Madras terrace roof Before restoration


Condition of the site during restoration

RESTORATION OF MOHABEER DHARMASALA, RAMESHWARAM, TAMILNADU

Central courtyard during restoration

East side courtyard during restoration

First floor corridor during restoration

East side courtyard during restoration

Refurbished wooden capital

Madras terrace roof during restoration

Restoration of the kalasa

Palm rafters for central courtyard corridor

RESTORATION OF MOHABEER DHARMASALA, RAMESHWARAM, TAMILNADU

Before Restoration

After Restoration

Before Restoration

After Restoration

Before Restoration

After Restoration

RESTORATION OF MOHABEER DHARMASALA, RAMESHWARAM, TAMILNADU

Before Restoration

After Restoration

After Restoration

Before Restoration

After Restoration

Before Restoration

Before Restoration

After Restoration

RESTORATION OF MOHABEER DHARMASALA, RAMESHWARAM, TAMILNADU

"Everything is designed. Few things are designed well."

– Brian Reed

Category 3

Conservation of Heritage

Project

Restoration of Sri Kanchi Kamakshi Amman Temple, Kanchipuram

By

Kavitha Selvaraj

SPECIAL MENTION

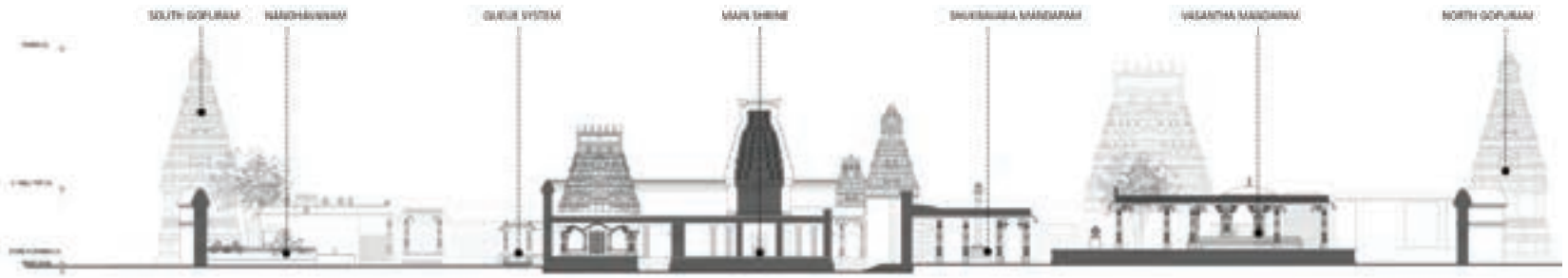
PROJECT DETAILS

Project Name: Sri Kanchi Kamakshi Ambal Temple, Kanchipuram
Year of Completion: 2018
Gross Built Area (m^2/ ft^2): 20235 sq.m

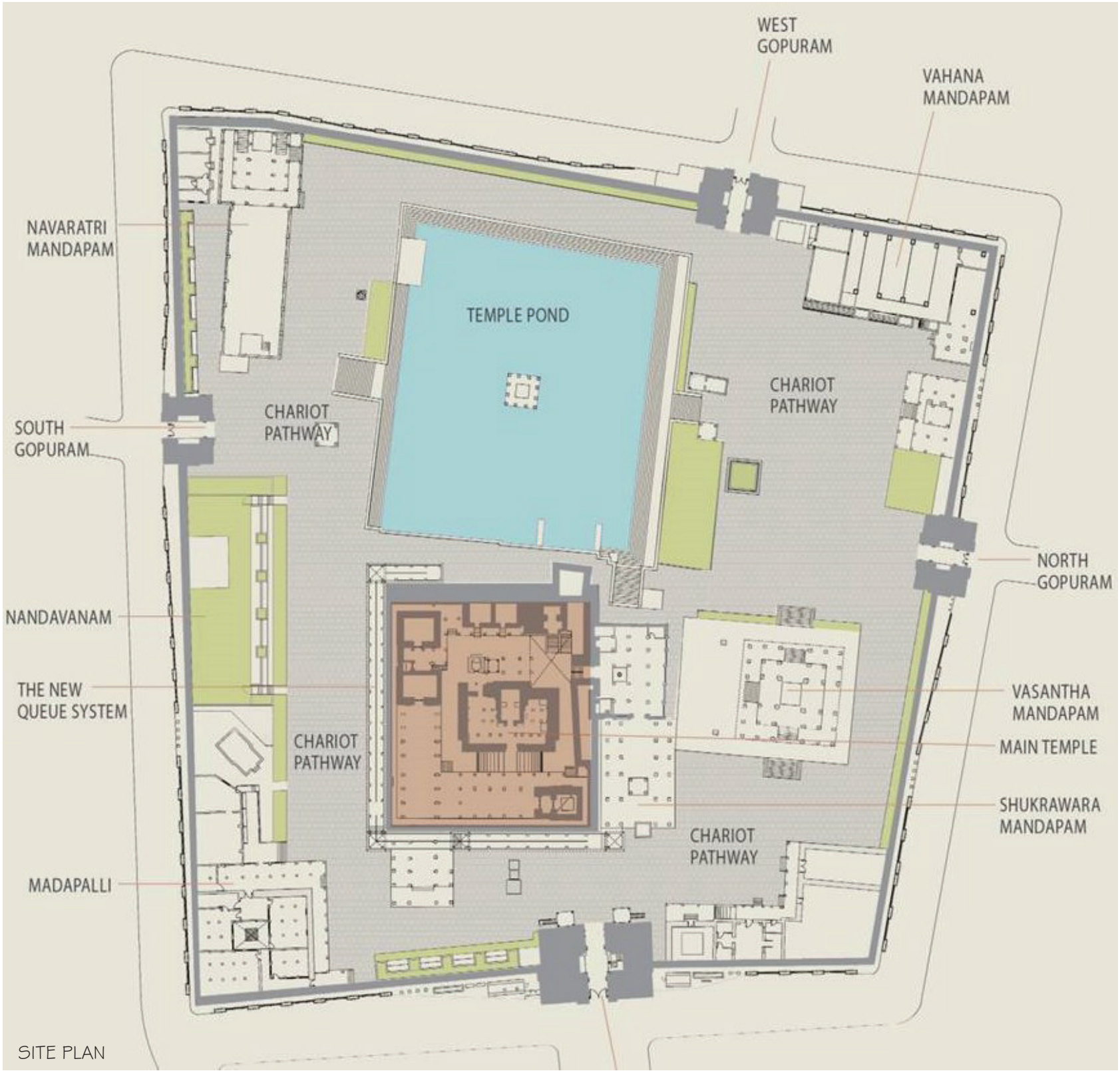
BACKGROUND & HISTORY :

The sanctum of this temple dates to the later Pandyas before 14th C. The temple precinct occupies an area of approximately 5 acres in the heart of Kanchipuram city. Adi Sankaracharya one of the greatest Hindu saints is significantly associated with the rich history of the temple. Subsequent additions by various patrons include the development of the holy tank and mandapams around the main shrine. The great Vasantha Mandapam has a wonderful base with beautiful sculptures from the Vijayanagara period on which a two hundred year old pavilion is built. The key objective was to restore and enhance the historic temple.

This was to be achieved by keeping in mind the traditions and future requirements of the temple and in consultation with all the stakeholders. The restoration sought to make this experience comfortable for the visiting devotees with the addition of waiting for pavilions and other facilities. Over the years, numerous structures have been added, along with layers of paint in the name of maintenance. During the restoration, the structures are brought to the original condition to the extent possible.



SITE SECTION

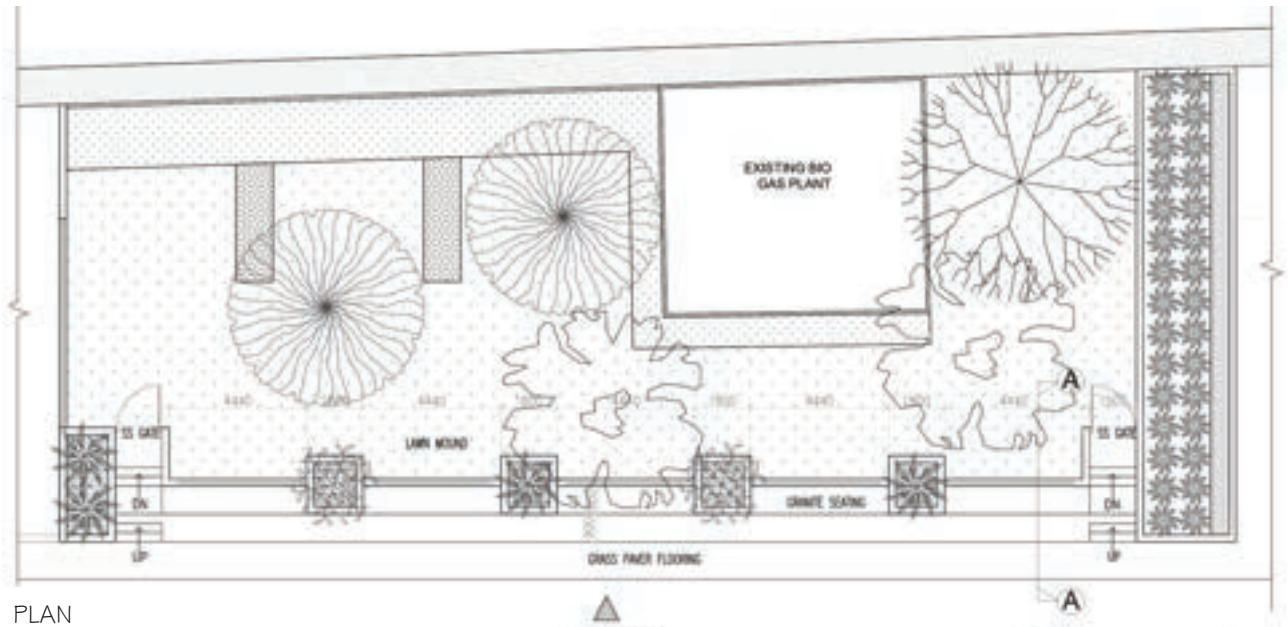

WEST
GOPURAM
VAHANA
MANDAPAM
NAVARATRI
MANDAPAM
TEMPLE POND
CHARIOT
PATHWAY
CHARIOT
PATHWAY
SOUTH
GOPURAM
NORTH
GOPURAM
NANDAVANAM
THE NEW
QUEUE SYSTEM
VASANTHA
MANDAPAM
CHARIOT
PATHWAY
MAIN TEMPLE
SHUKRAWARA
MANDAPAM
CHARIOT
PATHWAY
MADAPALLI

SITE PLAN

AERIAL VIEW

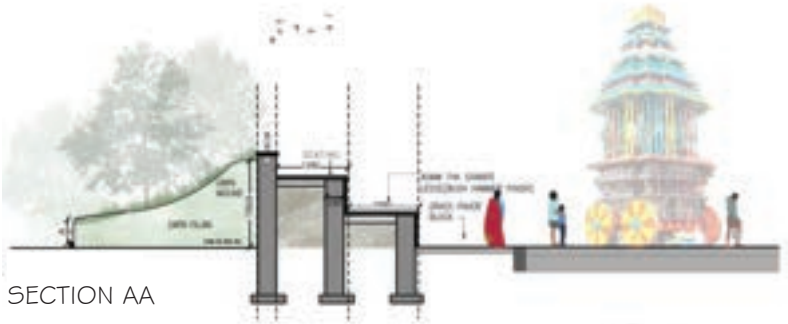
NANDHAVANAM

The Nandhavanam has been expanded to the extent possible and a seating gallery was created in the front to facilitate viewing of the chariot procession during festival times. Sacred trees and plants of Native variety for puja flowers have been planted inside.



PLAN

ELEVATION A



SECTION AA

ELEVATION

BEFORE

DURING

AFTER

RESTORATION OF SRI KANCHI KAMAKSHI AMMAN TEMPLE - KANCHIPURAM

REMOVAL OF PAINT

The original stone walls of the temple were coated with several layers of paint and in some places brick masonry walls had been constructed marring the stone inscriptions, which were removed to reveal the original finish of the stones. This was a major problem in many places like the Main temple, Vahana Mandapam, Madapalli and other subsidiary shrines around the temple. Many new inscriptions were discovered during the process of paint removal in the inner prakaram walls of the main temple and they offer new information about the past.

PRE RESTORATION

POST RESTORATION

THE GOPURAM

Four gopurams leading to the temple, all extensively and elaborately carved, with the main one facing East. The first item of the restoration process was to repair the sculptures on the structure. Structural experts from IIT Madras assessed the stability of the structure and suitable repairs were made to the East Gopuram. The kalasam (or finial), made of copper, which is at the top of the gopuram is now plated with gold. Finally, special paints which are resistive to UV rays and don't fade over time are applied in two coats.

EAST RAJAGOPALAPURAM PRE-RESTORATION

EAST RAJAGOPALAPURAM POST RESTORATION

REMOVAL OF MASONRY STRUCTURES

The most dramatic change in the Madapalli and Jayasthambha Mandapam is in re-establishing the raised colonnade around. The walls were removed to reveal ancient pillars. Careful cleaning of the pillars were carried out to make it possible to appreciate the columns belonging to Chola and Vijayanagara styles. Another aspect revealed during the restoration work was the beautiful plinth of the Mandapam outer wall. There are inscriptions at the base of this structure. These inscriptions tell us about the contribution of various donors to the maintenance and support of the temple.

BEFORE

AFTER

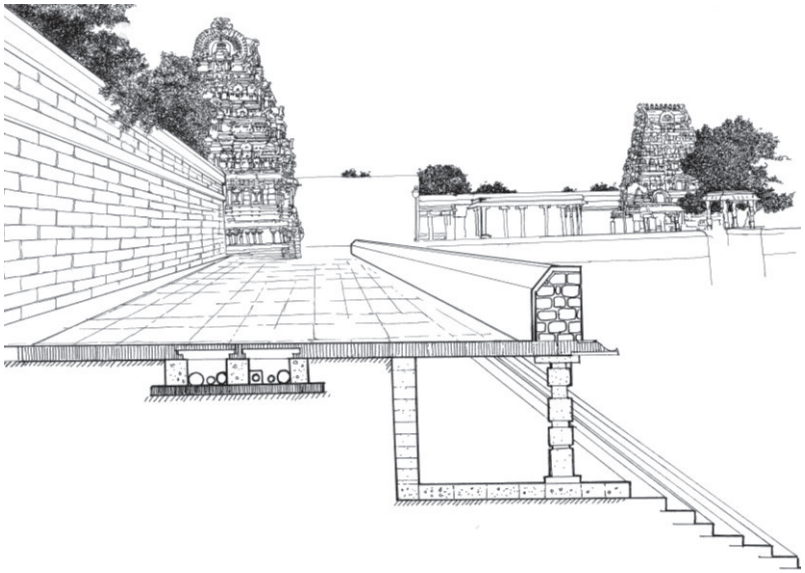
CHARIOT PATHWAY

The circumambulatory path was in serious disrepair, thus making it difficult for the golden chariot to go around the temple. A significant aspect of the restoration was to relay the stone surface using existing stones and adding new granite where necessary. All utilities such as electrical lines, CCTV, water supply systems were planned in underground ducts.

BEFORE

DURING

SECTIONAL VIEW OF CHARIOT PATHWAY



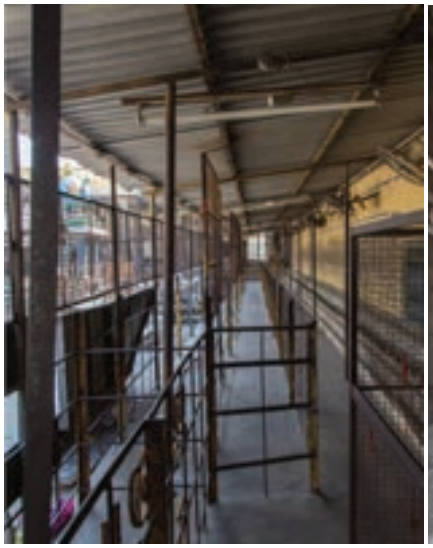
AFTER

INSCRIPTIONS

Newly discovered inscriptions from Chola, Pandya and Vijayanagara period add to the antique value of the temple. The earliest inscriptions of the Coḷas in the temple are recently discovered from the raised platform in front of Śāstā shrine. Another interesting inscription traced recently from the Śāstā shrine refers to the period of Rājendra II (1044–1052 CE). Two Sanskrit inscriptions of Sundarapāṇḍya (1251–1271 CE) were discovered from the wall in front of Śāstā shrine.

THE NEW QUEUE SYSTEM

Faith in the divine benevolence of the Goddess brings thousands to people to the temple everyday. On special days, these numbers go up to 50000. In order to provide a safe and comfortable waiting experience to the devotees, we revamped the queue system.



BEFORE AFTER

BEFORE

AFTER

RESTORATION OF SRI KANCHI KAMAKSHI AMMAN TEMPLE – KANCHIPURAM

THE TEMPLE POND

Apart from the sanctity attached to them, temple tanks help in recharging the ground water level in and around that area. Keeping this in mind, maximum efforts have been taken to divert water from the site into the tank. The Abhisegam water, which was once let into the tank without any water purification treatment has been diverted to the biogas plant. Maximum efforts have been taken to drain rainwater from the site into the temple tank. Storm water drains have been provided at regular intervals, which lead to a sedimentation tank. This tank helps to arrest solid waste particles before entering the temple pond.

THE NEW SKYLIGHT

Old sheets and grills in the inner prakaram of main temple were removed and replaced with glass roof to enhance the view of vimanam from inside.

BEFORE

AFTER

RESTORATION OF SRI KANCHI KAMAKSHI AMMAN TEMPLE - KANCHIPURAM

RESTORATION OF SRI KANCHI KAMAKSHI AMMAN TEMPLE - KANCHIPURAM

"Good architecture lets nature in."

– Mario Pei

CATEGORY : 4

Green Buildings

The built environment contributes 40% of the annual carbon emissions. Reduction in the carbon footprint of the building sector is essential for achieving the Paris agreement for climate change. In a rapidly urbanizing world and increasing built up space, energy efficiency of buildings plays an important role in combatting climate change. It is well established that consumption of energy and consequent carbon footprints of buildings can be considerably reduced through adoption of efficient, solar passive and sustainable design & technologies, appropriate choice of green & ecofriendly materials and green construction practices.

The approach for green building begins with site selection, building planning & orientation and design incorporating measures to reduce water and energy resources and attempts to Net Zero Energy (NZE) i.e. Zero Energy Building (ZEB)

"If we learn to build with local materials, we have a future."

– Francis Kere

Category 4

Green Buildings

Project

The School Krishnamurti Foundation India, Chennai, Tamil Nadu

By

Anupama Mohanram, Green Evolution

FIRST PRIZE

Campus of The School KFI nestled amongst the trees already existing on site at Thalambur, Chennai

THE SCHOOL KRISHNAMURTI FOUNDATION INDIA (KFI)

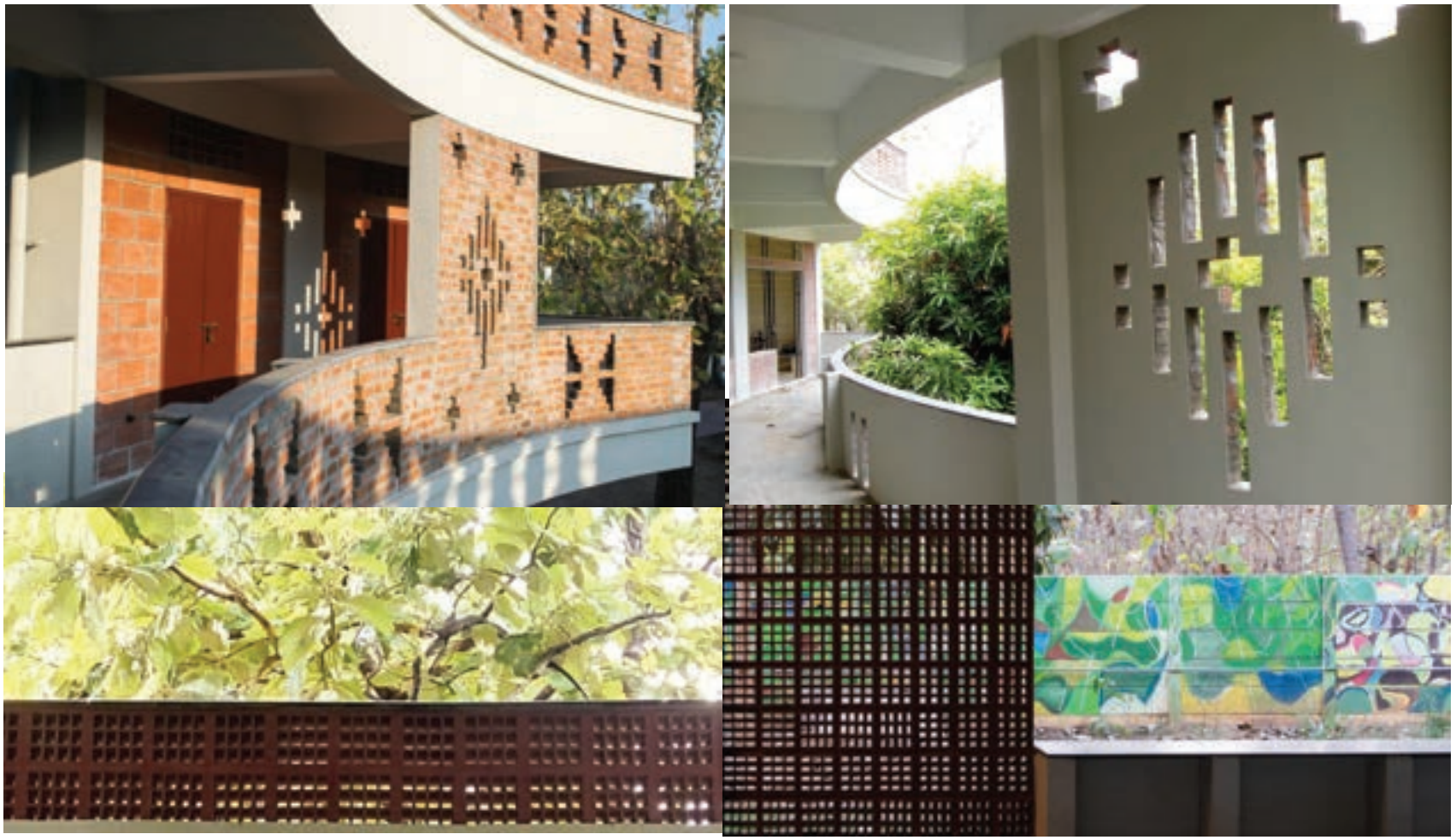
THE LAYOUT

An organic, unconstrained visual and physical flow through the campus and its existing trees shaping the buildings and spaces in its path!

The buildings have been designed around the 76 existing trees on site thus showcasing the importance of preserving bio diversity that has been there much longer than the buildings. The trees ensure adequate shading and oxygen for the occupants, creating a sense of wonder of being amidst vegetation from the very first day of classes.

The multiple buildings provide the students and teachers the much needed visual and physical connect to nature, necessitating them to come outside to experience the site between classes. Courtyards and cut-outs have been provided in the buildings in order to accommodate existing trees.

The natural breezeway from the south in Chennai has been capitalized upon by providing continuous access all through the site. The organic, flowing building forms not only accommodate the organic nature of the existing vegetation but also provide students a sense of visual and physical freedom.



AN EARTHY AND HUMANE ARCHITECTURE

An architecture that brings out the beauty of exposed facades with artwork and the skill of construction workers in creating art from masonry.

'Jaalis' (perforated screen walls) created out of exposed masonry not only form interesting light and shadow patterns all over the campus, constantly changing during different times of day but also provide a viewing point for children. Peering through small openings provides a totally different view of the 'world' beyond. Peering through a 'jaali' or perforated screen takes this experience a step further by adding an artistic element to the visual experience. Traditional jaalis involved extensive handiwork by artisans and formed a major aesthetic element in Indian, Indo-Islamic and Islamic architecture.

Such façade embellishment is simple yet speaks volumes of the skill of our masons, bringing to light hand made art and craft which unfortunately today is slowly losing its importance to manufactured cladding and glass facades.

THE SCHOOL KRISHNAMURTI FOUNDATION INDIA (KFI)

THE MAIN ENTRY

Hints of the buildings seen through vegetation provide an apt visualization at the entry to the school.

The colours and textures of exposed terracotta masonry complement the green of the vegetation and ensures the buildings blend into the bio-diversity offering occupants and visitors a unique experience.

The entrance

A WALK THROUGH EXISTING TREES

The entrance into the main office block has been cut-out to accommodate two existing mango trees that are at least 30 years old. This provides a stately and naturally shaded entryway into the building.

The pathway has been constructed from construction waste material carefully salvaged for use thus minimizing manufacture of new material and also diverting waste from going into a landfill.

Entrance pathway

OUTDOOR CLASSROOMS

'Biophilic' design is an approach to architecture that seeks to connect building occupants to nature, both physically and visually, thereby helping them enjoy the multi-sensory aspects of nature, and hence, leading to a more healthy and productive built environment.

Pockets of outdoor spaces have been selectively planned for occupants to enjoy learning under the shade of trees. Built-in seating in the form of low walls and steps enable varying degrees of interaction between the students and teachers.

Such outdoor learning spaces provide an unrestrictive learning environment that makes learning a much more pleasant experience.

Outdoor Classrooms

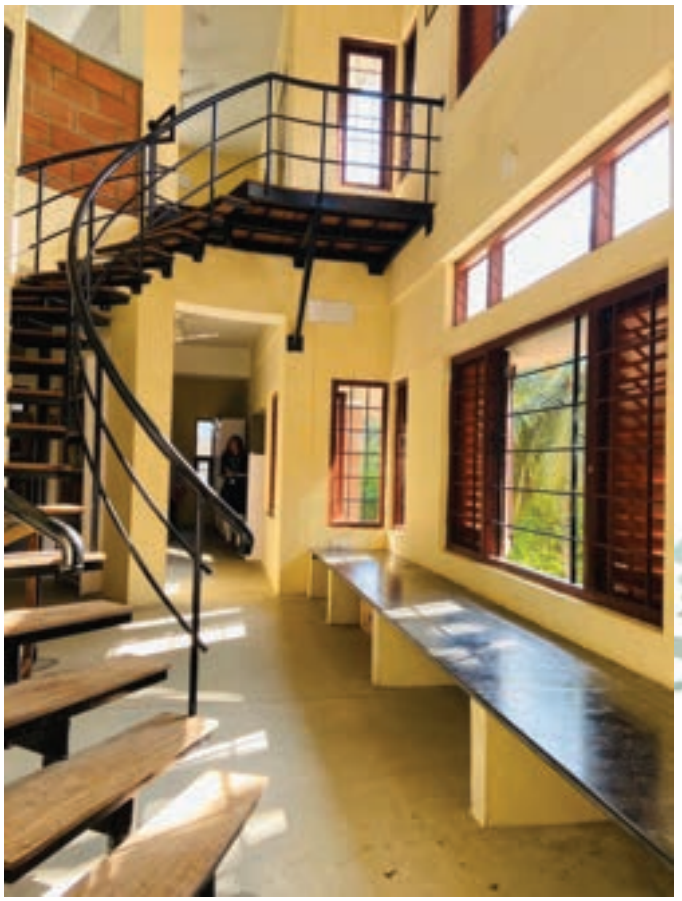
A CENTRAL SPACE FOR INTERACTION- THE COURTYARD AT THE OFFICE AND DINING BLOCK

Organic building forms around central courtyards lend themselves to performances and other social interactions. The courtyard can serve as a stage whilst the corridors and verandahs serve as viewing galleries during events.

The steps down to the courtyard provide natural seating either for quiet reading or social interaction or for outdoor dining.

The branch of an existing mango tree that was preserved now grows across the corridor emphasising the need for humans to co-exist with nature.

A central courtyard



The Assembly Hall & Library above – centrepiece of the campus

A FOCAL POINT ON CAMPUS

The assembly hall in the ground floor is a semi-circular open space that is defined at the periphery by continuous built-in seating. The assembly hall today is used for multiple functions. Pull-down bamboo blinds provide an option to close off the space during movie screenings.

The cantilevered library on the first floor provides adequate shading for the assembly hall below.

The library on the first and second floors has been designed as the focal point on campus, enabling students to inculcate the joy of reading. The semi-circular building offers a sweeping view of the campus form within. Built-in window seats bring out the joy of reading whilst looking out.

A partially double height space within the library is connected by a semi-circular metal and wood stairway in addition to the external staircases provided. This stairway offers an interesting and even mysterious access to the second floor which houses the quiet reading room leading out to a roof garden.

Currently the staff and children are growing vegetables in the roof garden thus making the campus self reliant.

HEALTHY AND ENERGY EFFICIENT INDOOR SPACES

The pandemic has taught us the importance of natural ventilation, natural daylight and a connect with nature while indoors, in order to lower our stress levels and enhance our well-being.

The spacious classrooms are adequately naturally lit and ventilated by means of large yet shaded openings and fenestrations. A 'spillover' or verandah space at the rear of every classroom provides a transitionary space from the indoors to the outdoors providing students a sense of freedom from a constrained indoor environment. These spacious classrooms are designed to provide about 2.5 sqm of space per student, much above the local norms.

In addition to the verandahs in the rear, there is also a verandah at the front of the classrooms which provide shade from the heat and glare-free natural light. The use of rigid insulation on the roofs of the classrooms prevent heat gain from the roof top.

Such interventions have helped avoid the use of air conditioning even during the hot and humid summers of Chennai, thus minimizing the impact of buildings on our planet.

Simple cement flooring that attains polish over time offers seamlessness for the circular classrooms and helps avoid use of additional flooring material.

A spacious, airy classroom that keeps the students connected with the outdoors.

The Library – a semi-circular space offering sweeping views and imbued with abundant natural light.

10 KW Solar Photovoltaic Energy system that powers the campus and 800 litre Solar Water Heaters that supply heated water to the kitchen for cooking are but two of the many green systems installed in the campus.

A CAMPUS POWERED BY GREEN TECHNOLOGIES

Energy Efficiency: The passive solar strategies used in the design of the buildings greatly help reduce electricity use by way of abundant natural light and cross ventilation that minimize the use of artificial lights and fans. Nevertheless, 100% of the lights installed in the campus are LEDs and only energy efficient BLDC fans have been installed in the campus. Other energy conservation measures include automatic level controllers for pumps and zero energy exhaust systems deployed in toilets. These measures have greatly reduced the energy consumption in the campus allowing it to be powered by solar PV systems – 9.8 KW grid connected rooftop system and BIPV skylights (0.8 KW). Solar water heaters are used to preheat water for cooking. The campus is therefore nearly Net Zero.

Water Conservation: Low flow fixtures with aerators, dual flush water closets and waterless urinals help minimize water consumption. In addition, 100% of the waste water is treated using biodigesters and a DEWATS system and reused for landscape irrigation. Rainwater falling on the roof is filtered and diverted to underground sumps for reuse while rainwater falling on the ground is percolated by a system of 11 interconnected recharge pits.

Solid Waste Management: 100% of the organic waste is composted on site and all recyclable waste is recycled.

A LIVING ENVIRONMENTAL LABORATORY

The School's campus was designed consciously as a living environmental laboratory that allows students to actively interact with and take care of the environment. In order to accomplish this goal, all green systems were designed to be visible to the students. As a result, the school features exposed masonry walls which highlight the materials used and the skill of the construction team, exposed rain water pipes and rain chains which reinforce the importance of rain water harvesting, BIPV skylights which allow the students to learn about an innovative method of bringing natural light into the buildings while producing clean energy. The students can also observe low flow water fixtures which clearly show how water consumption can be minimized.

In addition to exposing green products and systems to the students, it was decided with the school's management that the students should be exposed to the construction process and allowed to participate in the construction. Facades of each building were designated as mural walls on which the student's imaginations could come to life. Senior school students also participated in reusing segregated construction waste such as broken stones to create beautiful pathways through the campus.

Today, students of Class XI in every academic year are tasked with monitoring the various green systems of the school as part of their Environmental Science classes. The school also produces its own organic cleaning products using local and natural materials. The School KFI today is truly a living environmental laboratory where students learn to exist in harmony with nature and lifeforms.

Senior school students helping create pathways using leftover construction waste.

The buildings became a canvas for students .

The Assembly Hall & Library above – centrepiece of the campus

WORDS OF APPRECIATION

There is the necessary conviction in environmentally sustainable practices, the determined light touch; and there is the practical and wise experience of years of work in construction and project management. Our association with Green Evolution has been for us a source of confidence and delight.

- Ms. Jayashree Nambiar, Principal

My favourite spot is a thinnai in the Assembly Hall, a place where I can lean back, feel the cool stone below me and listen to the quiet rustling of leaves while having a conversation with a colleague or a student.

- Mr. Arvind Ranganathan - Teacher

"When we build, let us think that we build forever.

– John Ruskin

Category 4

Green Buildings

Project

Lalit Suri Hospitality Institute, Faridabad, Haryana

By

MORPHOGENESIS

SECOND PRIZE

INTEGRATING THE BUILT FORM WITH THE EXISTING LANDSCAPE

Site Area: 5 Acres | Location: Faridabad, Haryana | Cost: 150 cr.

Informed by local building traditions, The Lalit Suri Hospitality School sustains a harmonious dialogue between the built and the landscape.

Located in Faridabad, in the suburbs of the National Capital Region (NCR) of New Delhi, The Lalit Suri Hospitality School imparts education in the service of luxury hospitality. The brief stipulated a design for a sustainable campus that would be set within a modest institutional framework and prepare students for a future in the Indian hospitality trade.

LALIT SURI HOSPITALITY INSTITUTE

PROGRAMME AND PLANNING

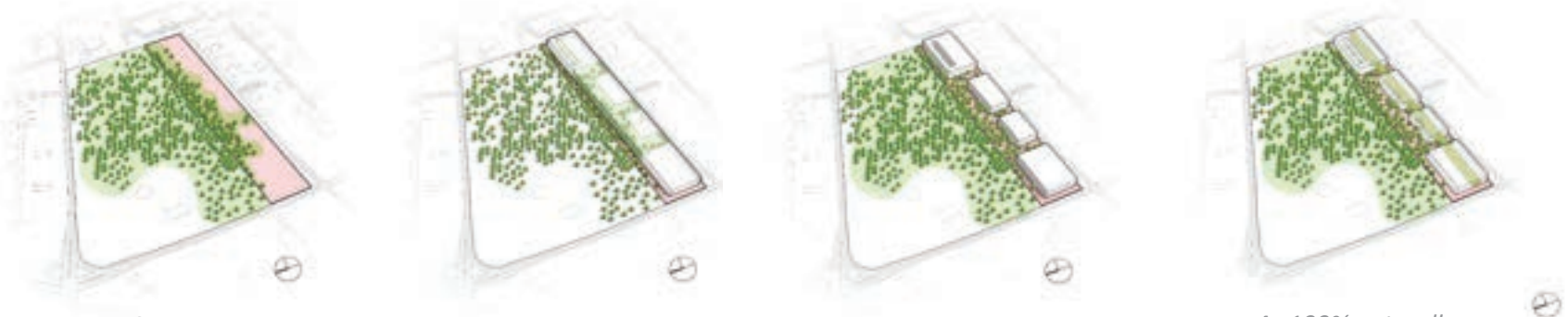
The planning strategy focused on sensitively preserving and integrating an existing cluster of neem trees abutting the site's northern edge. Therefore, the building actively engages and intertwines with the tree clusters by moving back and forth as required, resulting in multiple landscaped courtyards and shaded areas. The building height is kept low to give it a pedestrian-friendly human scale and allows for the seamless integration of the 'green' and the 'built'.

The design approach addresses the institute's vision of hospitality skills development, operational exposure, managerial competence, and a strategic outlook by ensuring that each space has a duality of purpose—one in its educational avatar, and one as a setting conducive to the experience of luxury hospitality. This flexibility in space-function is reflected across the entire project. Stepwells that are integrated within the design scheme are used as open-air theatres when empty. Cafeterias double up as F&B outlets, where the students eat as well as learn service. The kitchens are designed to enable students to cook as well as practice their service skills. The entire hostel accommodation is built in a hotel format, where even public gathering spaces are designed to be serviced like congregational spaces within hotels.

All dormitories are multiples of a single optimized bay module. The hostel rooms are planned in a manner that allows the students to experience 'hospitality' in a hotel-room format. This modular approach to planning enhances the flexibility and multiplicity of spaces and operations. Open areas work as spill-over spaces to encourage interaction amongst the occupants.

LALIT SURI HOSPITALITY INSTITUTE

Morphology

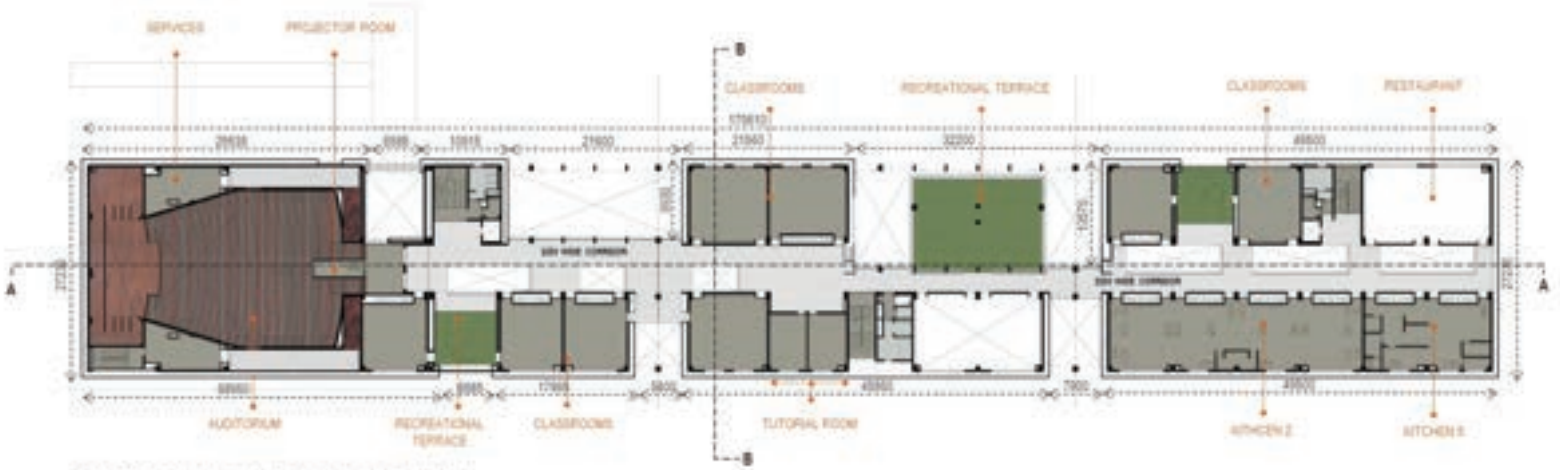


***1. Forest of neem trees** existing on the northern periphery of the site.*

***2**. Maximum permissibl built volume.*

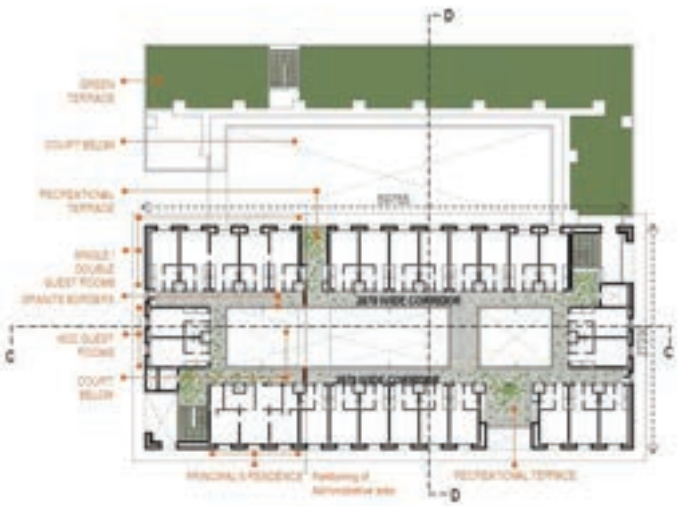
*3. Optimized built form allowing for **zero tree cutting.***

4. 100% naturally ventilated central spine.



ACADEMIC BLOCK – FIRST FLOOR PLAN
1:500

HOSTEL BLOCK – GROUND FLOOR PLAN
1:500



HOSTEL BLOCK – SECOND FLOOR PLAN
1:500

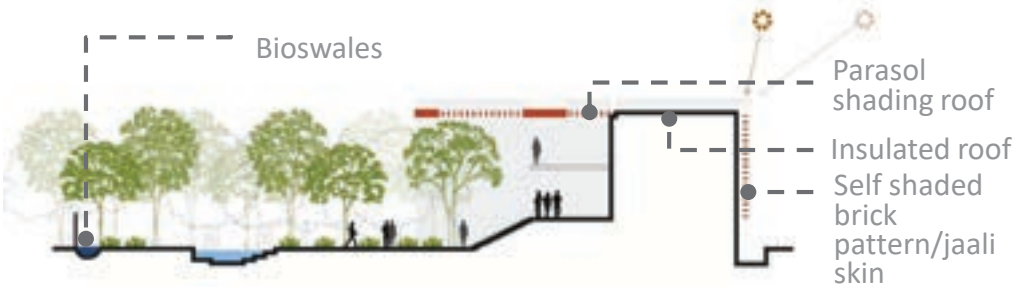
SUSTAINABILITY INTERVENTIONS

One of the critical aspects of the project was the zero tree-cutting goal, which has been successfully achieved through an optimized plan of permissible built volume with a 100% naturally ventilated central spine. The presence of lush foliage helps bring down summer temperatures through transpiration cooling. Moreover, the design of the school incorporates a series of passive cooling measures that reduce ambient temperatures within the building by up to 15 degrees.

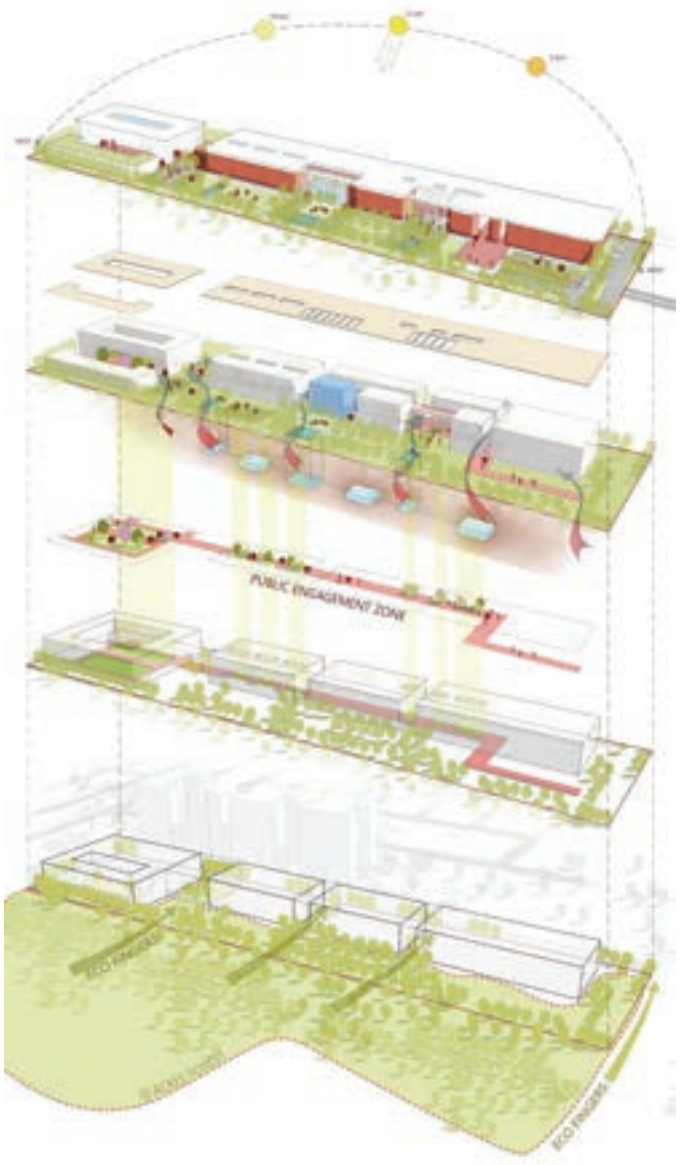
The north-south orientation for minimal solar exposure acts as an effective self-shading component allowing the auditorium to buffer from solar gains. Summer winds travelling along the northwest-southeast direction are harnessed and redirected over the stepwells to improve thermal comfort during highly humid months. Landscaped courtyards enhance the cross-movement of fresh air within the building and reduce temperatures through stack effect. Brick cavity walls, terrace gardens, and cantilever projections further reduce heat gain. The building is partially sunken, offering thermal banking and serving as an acoustic buffer from the adjacent main road.

Shaded courts help in activating the social engagement zones

The courtyard planning, incorporation of lightwells and thermal buffering, and the integration of greenery collectively reduce mechanical energy dependencies and optimize resource consumption, resulting in 100% of the academic area being Net Zero on energy (5,750 sq.m. roof area is provided for solar farming) with an EPI of ≤58kWh/sq.m./yr compared to the ECBC benchmark of 90 kWh/sq.m./yr.



Sectional detail showing the effect of the dual skin jaali exterior in passive reduction of heat gain.



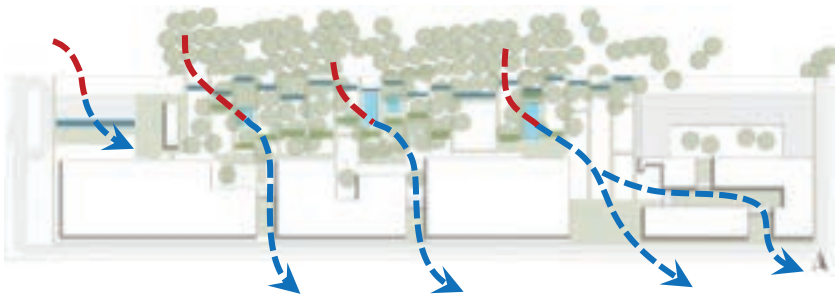
MINIMAL INTERVENTION TO THE NATURE

Maintaining natural drainage-bioswales and natural topography

Building is partially below the ground level and this helps in achieving: better accessibility, thermal Banking, and acts as a buffer from main road thus reducing noise.

MICROCLIMATE CREATION

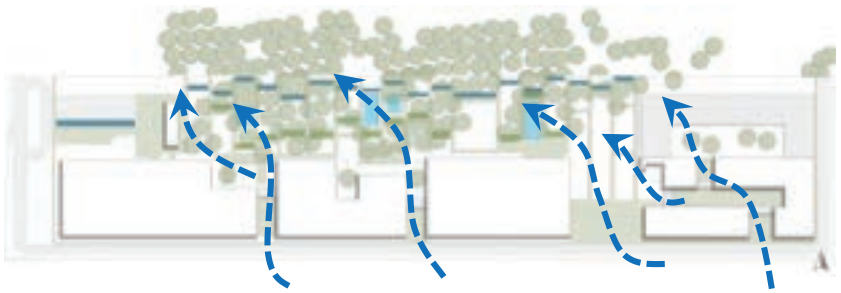
SUMMER WINDS



STEPPED WELL/ KUNDS (used as O.A.T.'s when empty)

STREAM/BIOSWALES FOR MICROCLIMATE (mist spray along non-pedestrian corridors)

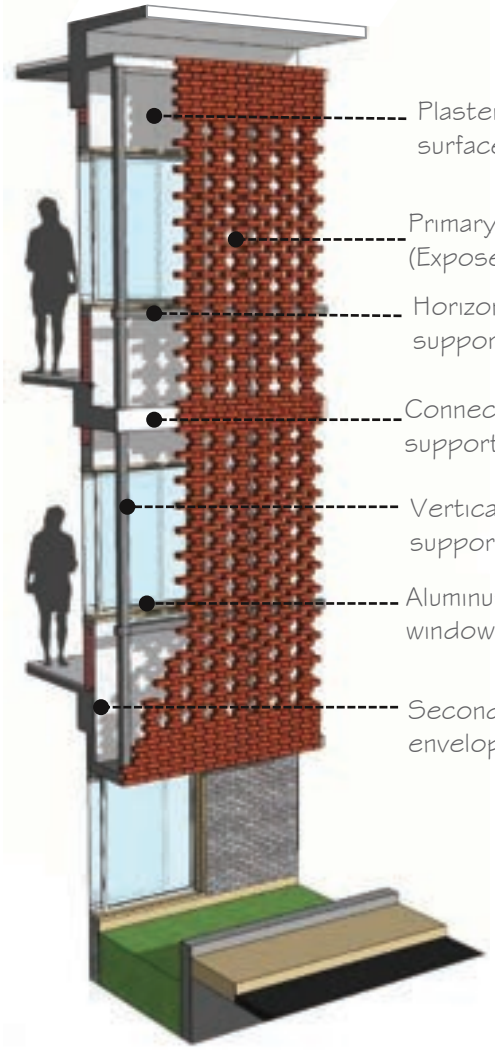
MONSOON WINDS

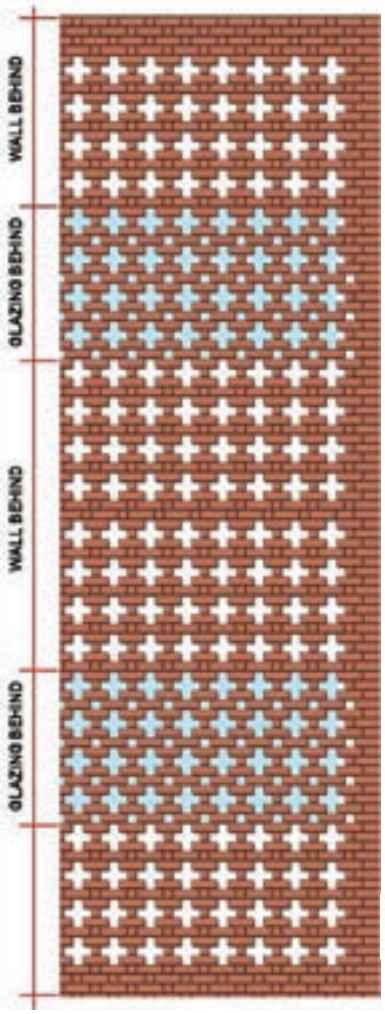


Extending the forest indoors thus enhancing the productivity of students

LALIT SURI HOSPITALITY INSTITUTE

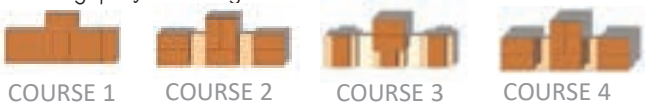
FAÇADE DETAIL





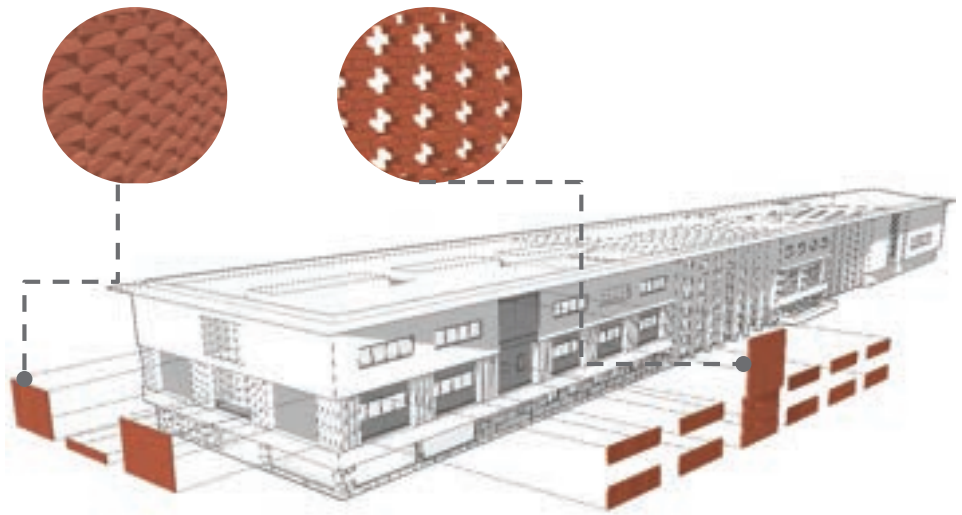
The primary material of choice was brick, being synonymous with institutional buildings in India, and also being locally produced. Undulations and perforations in the facade enable ventilation and shading in the corridors, while the overhangs prevent ingress of direct sunlight into the space, working concurrently to reduce heat gain. The design plays with different forms and levels of fenestrations, revealing interesting gaps, thus reinventing the tradition of the jaali and jharokha (a type of overhanging enclosed balcony).

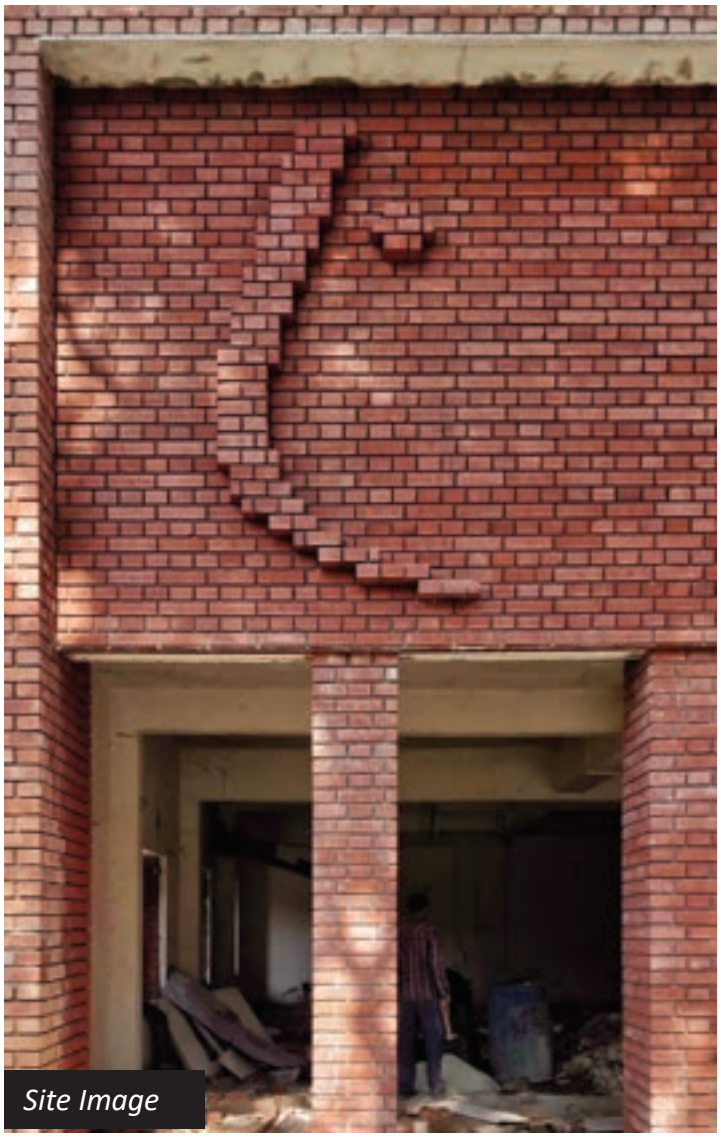
The simple exposed brick facade with low wall-window ratios is used as a physical barrier that filters in 30% of outdoor light. The singular material for the entire project has various significant functions--being economical and low on maintenance while also lending a sense of timelessness and aiding psychological comfort.



LALIT SURI HOSPITALITY INSTITUTE

FAÇADE DETAIL





Site Image

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LALIT SURI HOSPITALITY INSTITUTE

SUSTAINABILITY| NET ZERO ON WATER & ENERGY

NET ZERO WATER

Rainwater collected during the monsoon period: ~4,900 cubic metre
Fresh water requirement by institution during the monsoon period: ~3,500 cubic metre
Net Zero on water during monsoon period : June-September

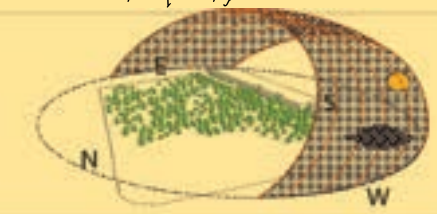
Rainwater harvesting : Collection Wells | Bio Swales

NET ZERO ENERGY

35% SAVING IN OP-EX

100% of Academic Area is net zero on energy (5,750 sq.m. roof area provided for solar farming)
With Energy Performance of ≤58 kWh/sq.m./yr. compared to ECBC benchmark 90 kWh/sq.m./yr.

- Optimum Orientation for Minimal Solar Exposure : North- South
- Robust Envelope Design: Optimal Thermal Properties| Cavity Wall
- Solar Control: Effective Shading Design | Overhangs | Self Shaded walls
- Space Planning: Auditorium placed on the west to buffer from solar gains



PASSIVE DESIGN

DESIGN STRATEGIES: Courtyards creating Stack effect

- Circulation is shaded and 100% naturally ventilated to enhance the flow of fresh air across the central spine.
- Landscaped courtyards enhances the cross-movement of fresh air within the building.
- Cavity walls, terrace gardens, cantilever projections to reduce heat gain in the building, Thermal banking further cools the building.

Shaded courts help in activating the social engagement zones

The structural cutouts enable the Stack effect

THE SEAMLESS INTEGRATION OF THE 'GREEN' AND 'BUILT'

The percolation of nature into the built form, dual functioning spaces, a muted material palette, and the combination of passive and active design strategies help create an educational campus that expresses the practice's key pillars of sustainability, optimisation, uniqueness and liveability.

LALIT SURI HOSPITALITY INSTITUTE

"Every building is a prototype, no two are alike."

– Helmut Jahn

Category 4

Green Buildings

Project

Adharshila School Extension Project Village Agara, District Sheopur, Madhya Pradesh

By

Suparna Ghosh & Jensil John

Forum Architecture

SPECIAL MENTION

ADHARSHILA SCHOOL EXTENSION - Building with the Community

An existing school campus in Agara, Madhya Pradesh needed to add 4 classrooms housing 50 students each. A climate sensitive building was proposed using passive design measures. The project is aimed to be socially sustainable by encouraging the community to celebrate indigenous materials and systems and to have a close connection with the new building being built. Apart from providing good educational space to the community, overall the goal of the project was to engage and exhibit to them how their indigenous knowledge systems could be tweaked and reinterpreted to make a functional as well as aesthetic building, while reducing its carbon footprint and being environmentally sustainable.

South Façade of the School

ADHARSHILA SCHOOL EXTENSION VILL. AGARA, SHEOPUR, MADHYA PRADESH

Tribal Settlement in the village (*Bakar)*

Village Street View

Context and Site

The school is located in a small village called Agara, in Sheopur district, Madhya Pradesh. The village houses resettlement clusters of tribal villages that were driven out of the forests of Kuno National Park and rehabilitated here.

The surrounding villages use rudimentary stone, quarried from the local Kuno river for walls. capped by thatched roofs as in indigenous cooling system to deal with harsh summers.

It was important to the designers to create a building that was beautifully crafted as well as not removed from the socio-economic context of the village and its people. It was important that people felt like they owned the building and didn't feel intimidated by it. For this scale of the building, its materiality, its construction technology all needed to resonate with not just the users of the building but all the villagers.

Challenges

Climatic hurdles - The school is located in an arid and hot area in the Chambal Valley, close to the Rajasthan border next to the Thar desert. Dust storms and temperatures climbing to 50 degrees C in the summer needed to be dealt with alongwith long unrelenting summers.

Logistical hurdles - The closest town for selection of materials was 4 hours away by road making sourcing and procurement of materials difficult.

Financial Hurdles - The school received a limited grant over 3 financial years to execute the architecture, interiors and furniture for the school extension bringing the overall project budget available to approximately 75,000 euros (INR 56.5 lakhs for 6000 sq.ft = approx. INR 940/sq.ft including architecture, interiors, furniture, consultant fees, etc.)

Classroom Interior and Southern Corridor

Sustainable Design Strategies

The building is designed with climate sensitivity, using passive measures like orientation and cavity walls. A deep corridor all along the south face of the building provides ample shade from the harsh south sun. The openings provided on this face are also made slender in order to reduce heat intake from this facade. The north facade is provided with larger openings to bring in natural light and ventilation. Apart from this, the building materiality is meant to create a direct connection to the context both visually as well as environmentally. The overall concept of the building was to create a building that could exhibit to the villages the strength of their own local materials and their construction knowledge systems. The stone masonry carried out in the region and it adapts to create a composite structure bringing in some contemporary techniques blended with the traditional.

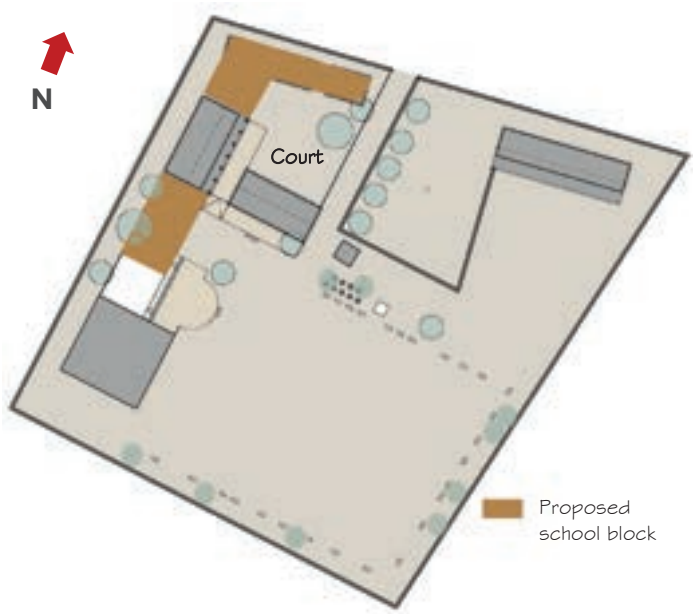
The structure of the building is designed to be load bearing stone masonry with RCC beams and slabs. This is done to reduce the cost of constructing columns, thereby reducing concrete as well as steel in the building. The slab is further designed to be a filler slab using earthen pots. This further reduces the amount of concrete needed in the slab as well as provides an aesthetically richer look to the classrooms.

ADHARSHILA SCHOOL EXTENSION VILL. AGARA, SHEOPUR, MADHYA PRADESH

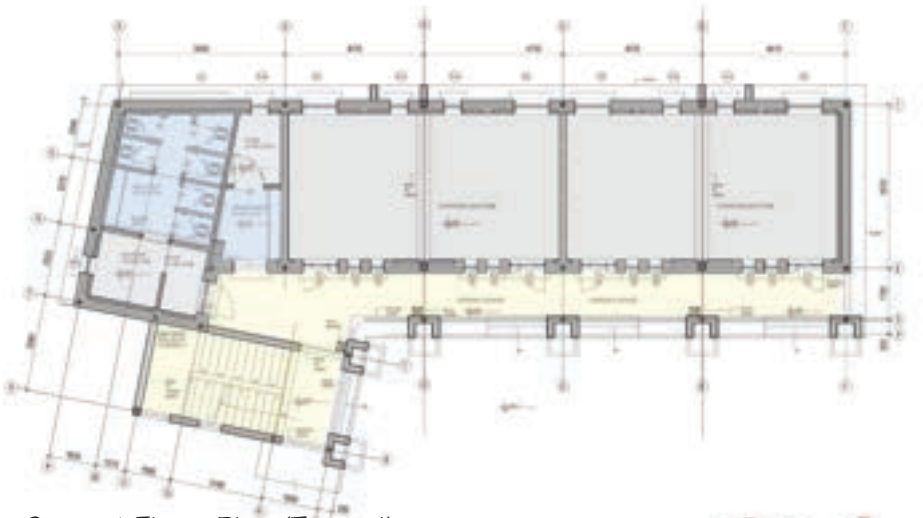
Planning Design Strategy

The function of the building was to add 4 classrooms to an existing campus that had grown incrementally and without a particular design idiom or planning strategy. However, the location of the building was critical in carving out a common court with an existing building as well as maintaining some old trees on the site. The heights of the building were also designed so that the first floor corridor could extend out and connect to the old existing building.

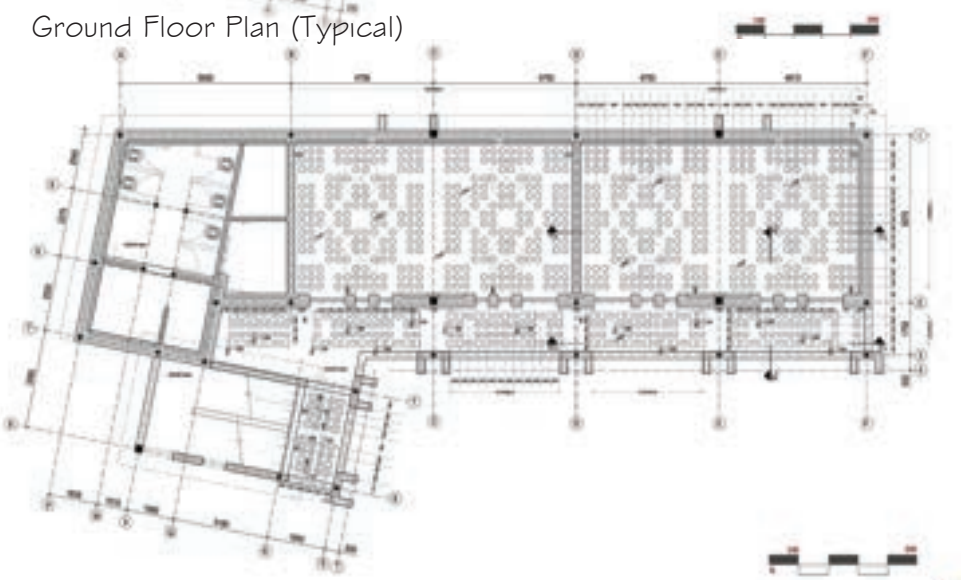
The classrooms were designed in a way that each could be divided if required into two separate halves so that flexibility could be maintained.



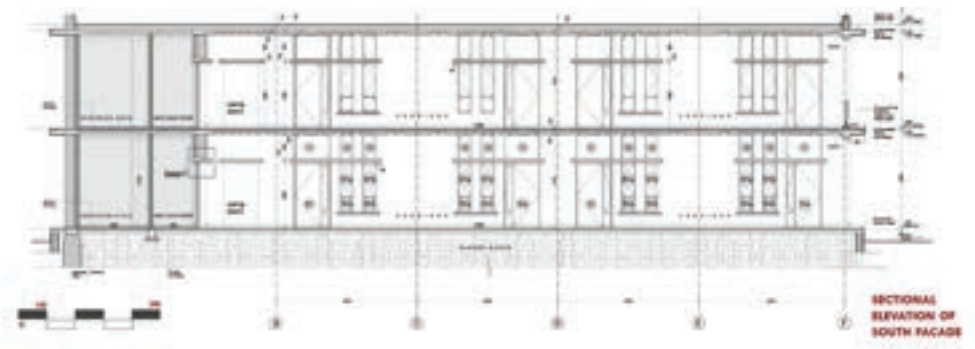
Site Plan



Ground Floor Plan (Typical)



RCP Showing Filler Slab Pattern



Sectional Elevation of South Facade

ADHARSHILA SCHOOL EXTENSION VILL. AGARA, SHEOPUR, MADHYA PRADESH

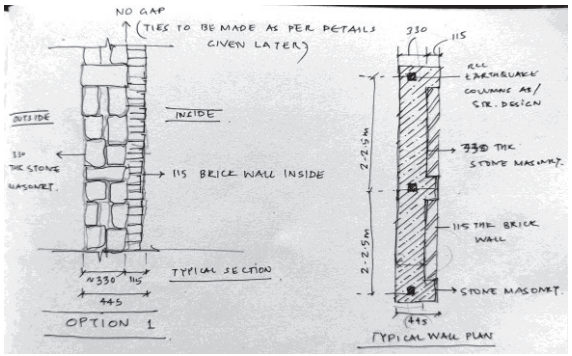
Social Spaces

It was important to understand that the school exists inside and outside the classroom for the students. The mid day meal program, outdoor spaces for play and gathering, interstitial spaces like the staircase and corridors all play and important role in the overall development of the children.

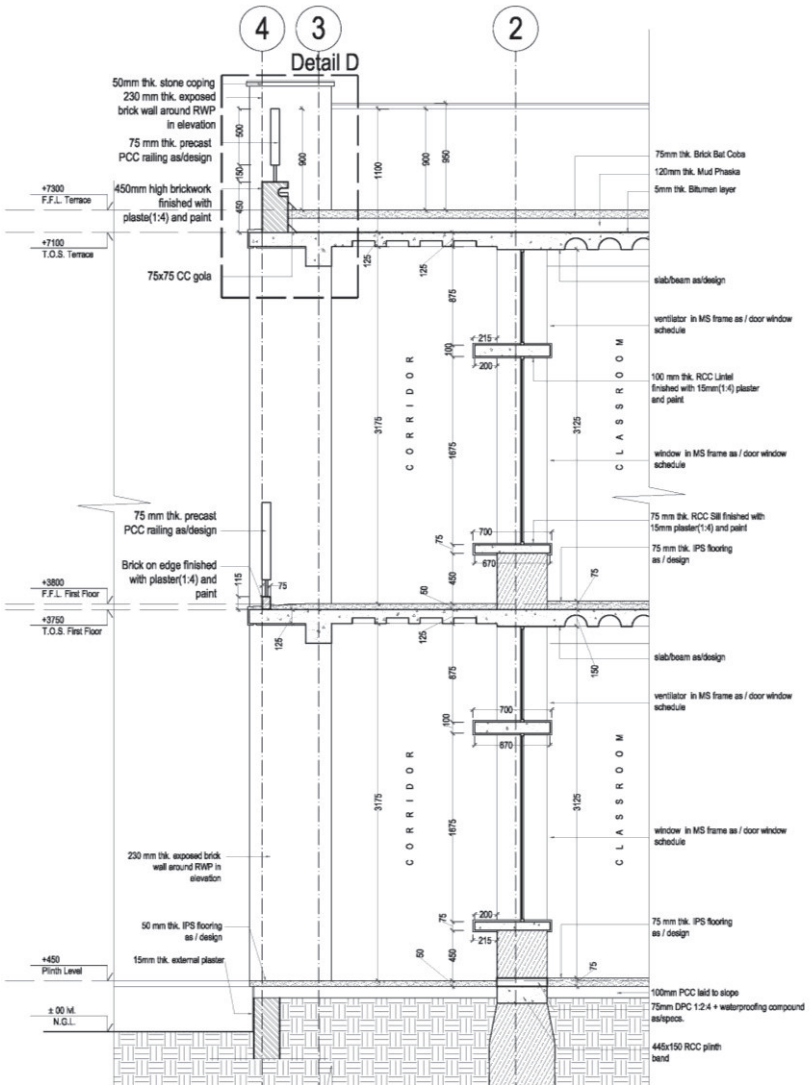
The design aimed at seamlessly connecting the outdoor southern court (seen in the image) with the corridors that work like a fluid connection between the outside and the classroom.

Southern Court in Winter

ADHARSHILA SCHOOL EXTENSION VILL. AGARA, SHEOPUR, MADHYA PRADESH



Sketch of Dual Wall System



External Wall Section of Southern Corridor

Structure and Construction for Heat Reduction

The walls of the building are designed and serve as thermal barriers to prevent excess heating of the building during the long and harsh summer the site experiences. The walls and foundation were designed as double layered masonry using local riverbed stone with a layer of brick on the internal face. For structural support 50mm thick stone ties were added at intervals tying together the dual wall system of stone and brick. The overall width of the wall is 450mm providing ample insulation and passive cooling to the building. Tie stones are used to create an elevational band as well as double up as sills and lintels. Additionally, single reinforcement earthquake columns were placed in the wall to follow earthquake design codes for the region.

The slab is designed as a filler slab made with earthen pots placed in an RCC structure. Due to reduction of the self load of the slab, the thickness could be reduced as well as the overall consumption of material.

Orientation and Massing

Orientation of the building is done carefully in order to reduce heat intake into the building. The east wall which would heat up the most during the functioning hours of the school is left devoid of any openings to reduce heat transfer. The south wall has a deep corridor in order to provide shade as well as slender openings to reduce heat intake. The north façade which would not get any direct sunlight is where most of the windows are provided for daylighting. The western wing of the building is used for services. This also gives the maximum south facing length of terrace for solar panel installation for harnessing passive solar energy.

South and East Façade

North Façade

ADHARSHILA SCHOOL EXTENSION VILL. AGARA, SHEOPUR, MADHYA PRADESH

Interior Design Strategies

Given the low budget of the project, there was a conscious effort to design the architecture of the project such that it would double up to create the interior aesthetic of the building as well without adding any additional cost towards interior design or finishing. The filler slabs, lintel bands, interplay of dual materiality of the walls etc were all celebrated and exhibited in their raw form so as to create the interior aesthetic of the school. Exposed conduiting was done for ease of repair and maintenance while also creating patterned elements that would further add to the raw language of the interiors.

Interior of a Classroom/Subject Lab

ADHARSHILA SCHOOL EXTENSION VILL. AGARA, SHEOPUR, MADHYA PRADESH

Local Employment and Capacity Building

Training and Generation of Employment

In order to establish a deep connection between the new building and the residents of the village the materials of the building and construction was designed so that local skills could be employed. Masons constructed the walls in techniques they were familiar with and this helped generate employment for many months in the village. Even the procurement of stone was from local river beds and quarries and dressing of the stones was carried out at the site.

The filler slab construction, although, not at all a new technology was something that the locals had never seen before. The process of laying and casting the slab became almost a local event. Laying the pattern of the pots and making the slab worked like a training of the team towards this new technology.

The pots for the filler slab, approximately 1200 in total were all made in a neighbouring village potter's workshop. A family run enterprise, the potter and his family were employed for over a year in the process of making these pots. The sizes and design of the pots required close coordination as the height of the pots was critical to maintain slab thickness and requisite concrete covers.

Project Overview

Name – Adharshila School Extension Project
Client – Adharshila Shiksha Samiti
Location – Village Agara, District Sheopur, Madhya Pradesh
Built up Area – 6,000 sq.ft.

Architecture – Forum Architecture
(Suparna Ghosh, Jensil John, Devashish Mohan
Structure – Design Roots
MEP – SKYSS Consultants
Site Management – Syed Merajuddin

Southern Court in Winter

"To provide meaningful architecture is not to parody history, but to articulate it."

– Daniel Libeskind

CATEGORY : 5

Landscape Planning And Design

The planning, designing, operation and management of the built and natural environment for liveable cities is essential for sustainability of human, cultural and urban ecosystem. It is increasingly believed that green open spaces define the culture and character of a city and makes it vibrant and resilient. A well designed and well-maintained green area adds to the social environmental aspect of the city and also improves psychological and physical wellbeing of citizens. However, the rapidly modernizing cities are increasingly becoming concrete jungles where the green open places are grossly undervalued and therefore neglected.

Understandably, there is a growing awareness about importance of public places in impacting sustainable development and finds mention in the Sustainable Development Goals (SDGs). The challenge before the professionals is to design safe, inclusive and accessible green spaces that enhance the image of a city and contribute to environmental sustainability.

"Architects spend an entire life with this unreasonable idea that you can fight against gravity."

– Renzo Piano

Category 5

Landscape Planning & Design

Project

Eco-Restoration of Lakes under Coimbatore Smart City Project, Coimbatore, Tamil Nadu

By

Oasis Designs Inc.

FIRST PRIZE

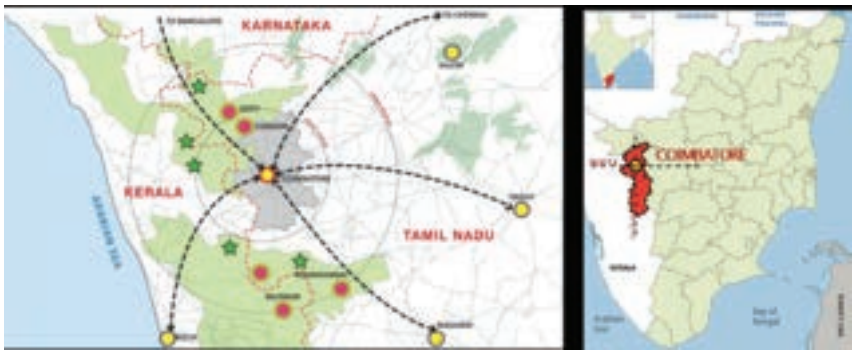
CITY AND IT'S CONTEXT

Located in the South Indian peninsula, Coimbatore is nestled at the foothills of the western ghats along the Noyall Valley, and spans on either side of the river. Famous for its historic cascading lake-system, built by the Chola rulers, these are unique engineering marvels that help to capture the rainwater flowing from the hills to the river, but also prevents flooding, by having overflows connected to the lakes downstream and then back to the river.

Coimbatore was one of the first 20 shortlisted cities to be inducted in the City challenge of the Smart City program of the Government of India.

The whole Eco-restoration of the Lakes project was envisaged as a connected, ecological, public realm corridor; a thread which links the entire city through the Pearls of lakes system built by the Cholas.

Our team won the invited design competition for this Area based development project. Currently, this 1000-acre project is underway, being rolled out at site in different phases.



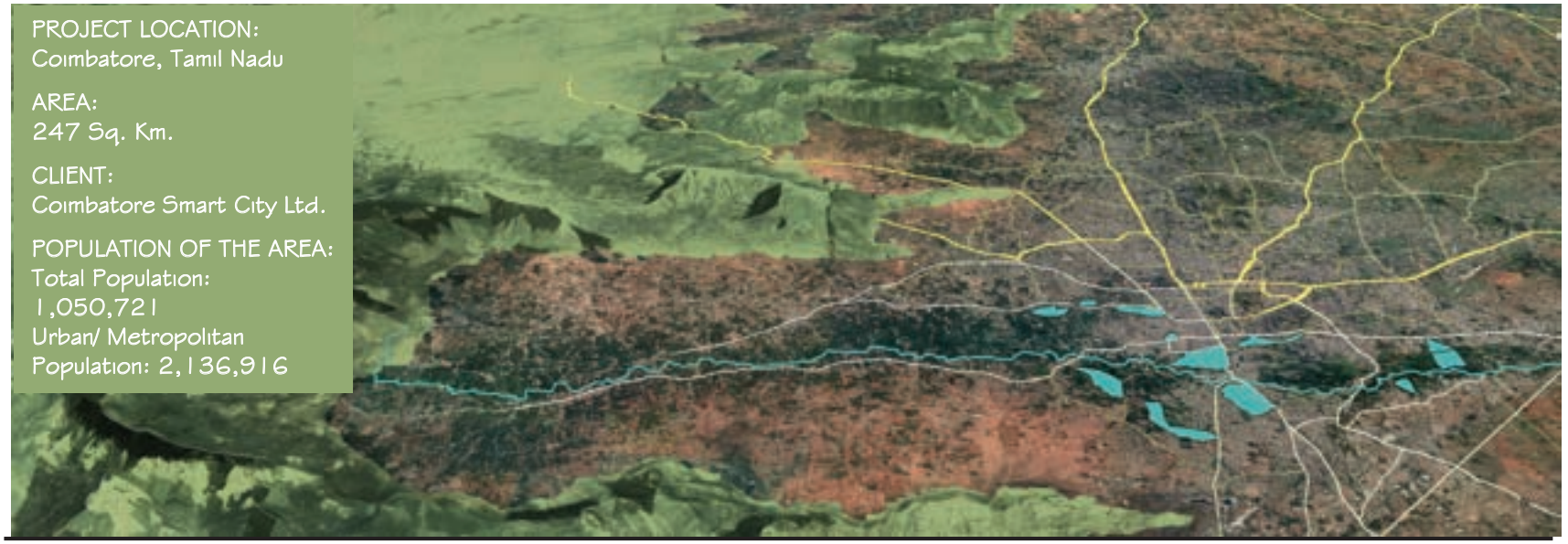
Historical Lake System by Cholas

PROJECT LOCATION:
Coimbatore, Tamil Nadu

AREA:
247 Sq. Km.

CLIENT:
Coimbatore Smart City Ltd.

POPULATION OF THE AREA:
Total Population:
1,050,721
Urban/ Metropolitan
Population: 2,136,916



ECO-RESTORATION OF LAKES UNDER COIMBATORE SMART CITY PROJECT, COIMBATORE, TAMIL NADU

ABOUT THE CITY

STRENGTHS

Well Connected City

- Good road, railway and air connectivity, making it an entry point for tourists.
- High use of public transport.

Good Climate Conditions

- The city surrounded by thick forest on the western side enjoys a pleasant climate all through out the year as it receives cool breezes through Pal Ghat Pass from the West. It receives monsoon rains between June and September. It experiences rains in October–November from retreating winds.

Natural Features

- Coimbatore is set in the rich bio-diversity on the Western Ghats and the lakes are also host to many local and migratory birds.
- Amazing historic rainwater harvesting system of lakes built by Cholas, providing effective flood control measures and giving visitors natural features to enjoy.
- Natural surroundings for lakes towards the periphery of the city.

Educational/ IT

- Coimbatore is the 2nd biggest city in the state and the fastest growing industrial and IT hub of the state.
- There are many good educational and medical facilities, which attracts many students and people for medical tourism.

CHALLENGES

Lakes used as Dump yard

- Earlier the lakes were more accessible and visible but recent desilting drives and the accumulated silt bunds have cut off some of the lake-edges from the roadside view.

Lack of City Level Open Spaces

- Undeveloped open spaces in the city and a lack of city level public outdoor spaces.

Lack of active play areas

- With very few playgrounds, kids hardly had any space to play in the city and facilities were required for yoga, skating, karate, music performances, exhibitions etc.

Lack of Facilities for Pedestrians & cyclists

- No facilitation for pedestrians which is a big deterrent for people to continue using Public transport, thus leading to an increase in private vehicles.

Creating tourist destinations in the Coimbatore city.

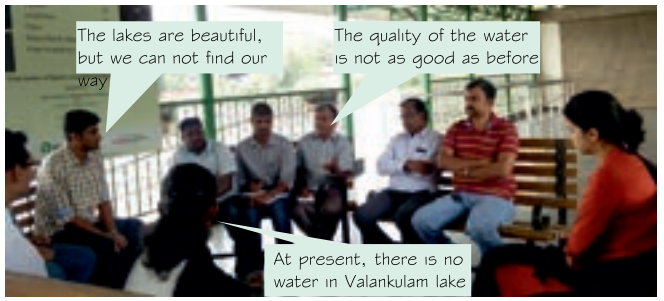
- Most of the people landing in Coimbatore, use the city as a transit stop to visit destinations like Ooty, Isha Foundation, Munnar etc., so the city needs to create destinations.
- No attractions to hold back tourists coming into the city.

Magnificent Lakes of Coimbatore

Lake as a Backyard...Literally!!!

ECO-RESTORATION OF LAKES UNDER COIMBATORE SMART CITY PROJECT, COIMBATORE, TAMIL NADU

UNDERSTANDING THE CHALLENGES AND DEVELOPING STRATEGIES

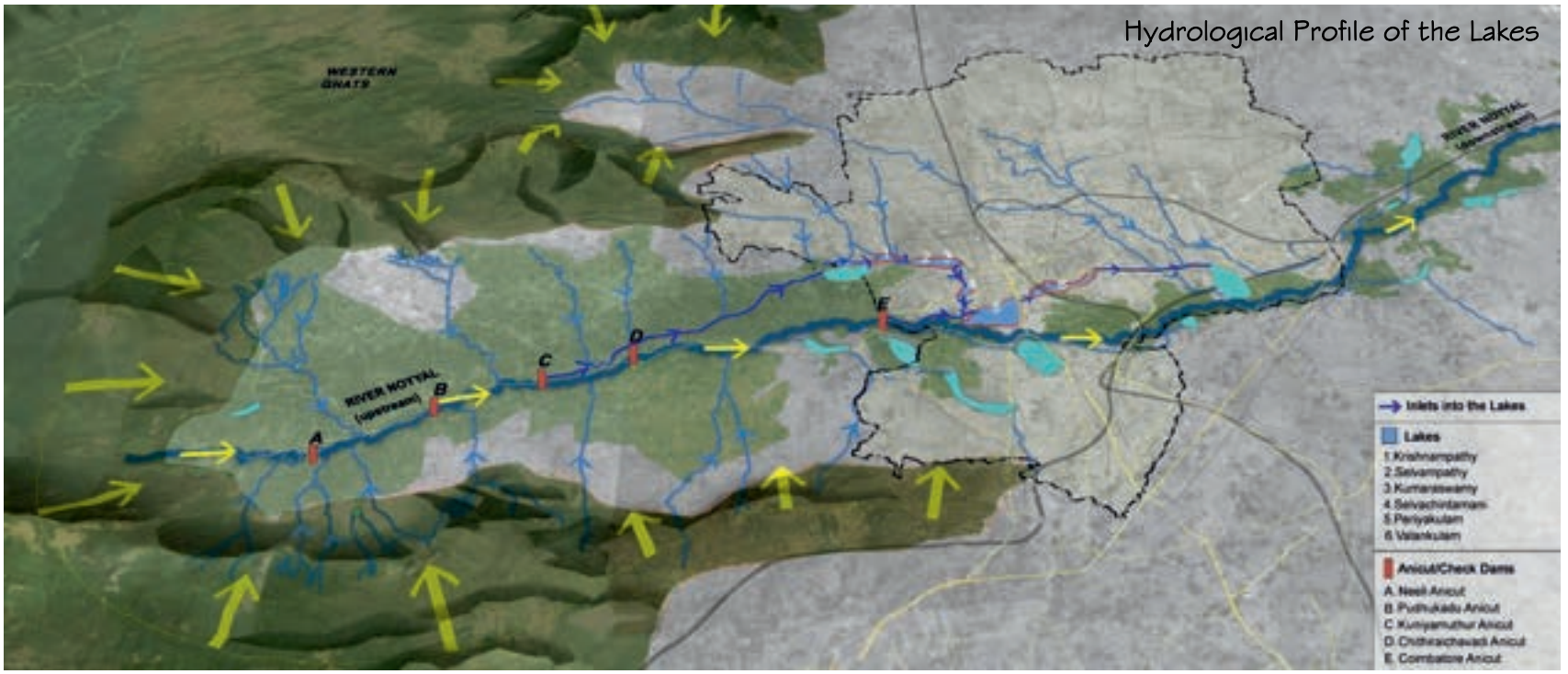


Project Highlights

- 750ACRES OF PUBLIC REALM CREATED
- 35KM LONG LAKE-FRONT PROMENADE
- 25KM LONG CYCLING HIGHWAY
- 5000 NEW NATIVE TREES ADDED
- 750 TONNES OF CO2 SEQUESTRATION

Key Strategies

ECO-RESTORATION OF LAKES UNDER COIMBATORE SMART CITY PROJECT, COIMBATORE, TAMIL NADU



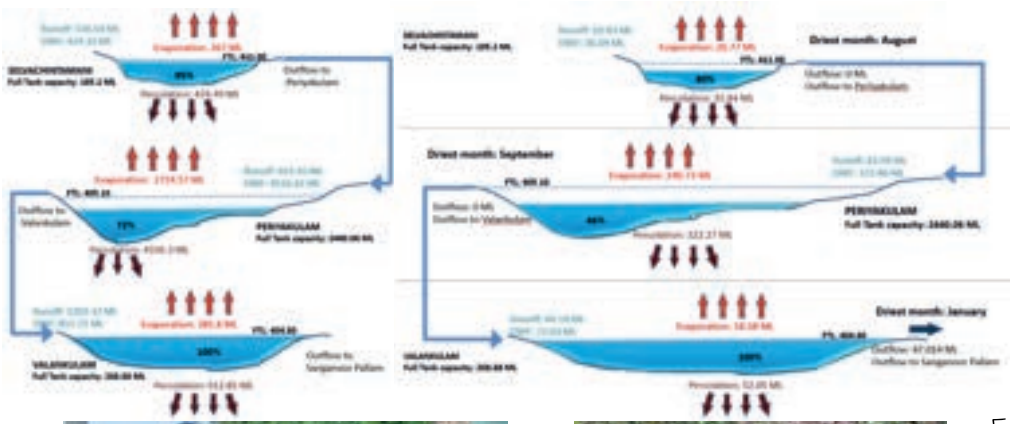


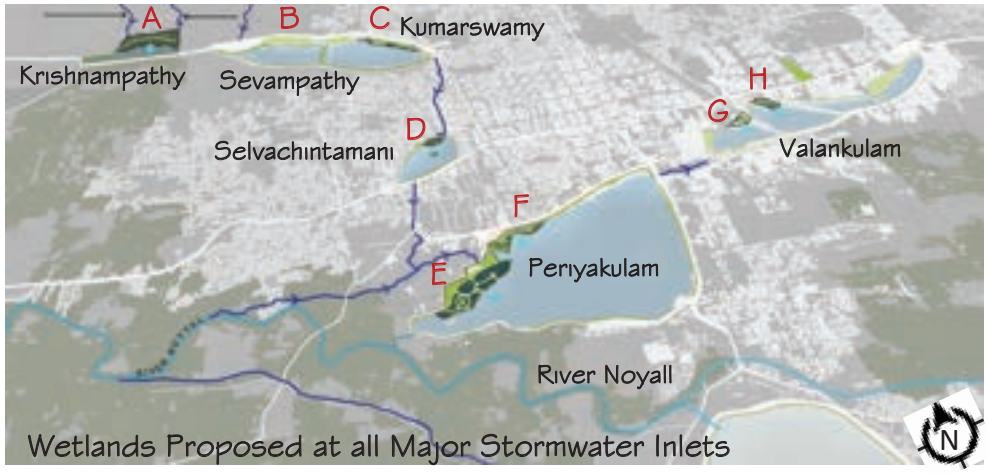
Fig- Catchment area as per the Survey of India toposheet

Quantifying the inlets

Qualitative Analysis

Each lake was analyzed in detail for all inlets by our consortium partners CDD. Measurements for flow quantum and lab tests for wastewater qualities were carried out to determine the baseline study. This baseline study was then correlated with all the topographical surveys to determine the levels and sizes of the inlets and outlets, all of which were then analyzed to formulate the decentralized ecological wastewater treatment strategy for each inlet.

DECENTRALIZED ECOLOGICAL WASTE-WATER TREATMENT STRATEGY- WETLANDS

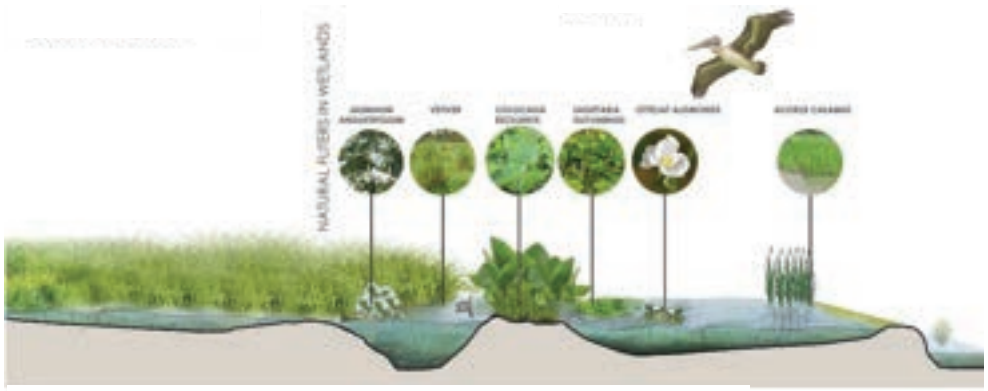


Wetlands Proposed at all Major Stormwater Inlets

Periyakulam Lake

D. Water treatment at Selvamchintamani lake wetland

E. Periyakulam lake wetland



Typical section through the wetland

Coimbatore is building its UGD (Underground Drainage) system, the present water channels which carry untreated sewage into the lakes are being cleaned before they enter the lake, with the help of primary, secondary and tertiary methods. Also, it's easier to treat the inlets at the source rather than treating the entire lake water.

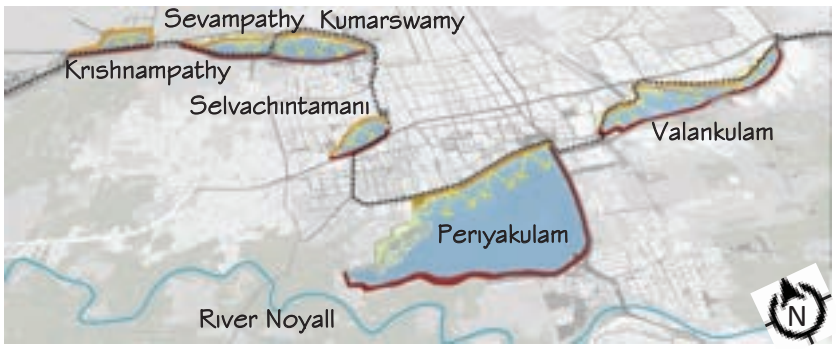
The design of the Periyakulam wetlands is another example of the landscape design and the water treatment design informing each other.

ECO-RESTORATION OF LAKES UNDER COIMBATORE SMART CITY PROJECT, COIMBATORE, TAMIL NADU

BUND STRATEGY

Depending on the catchment area of each lake, the codal requirement is to maintain the main bund level at 2m above the FTL; while the ring bund (the non-critical bund) shall be 0.9m above the FTL. Bunds are proposed to be constructed using as natural methods as possible to avoid concrete. The green slopes, the aquatic grasses, rocks etc. provide the habitat for native bio-diversity, which in turn shall help to create a balanced lake eco-system.

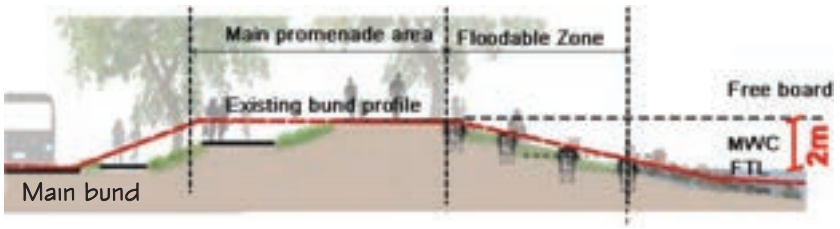
Removing the unnecessary bunds, and silt mounds, the lakes now have become more visible and accessible which will soon allow people to connect to the newly designed lakefronts to enjoy the City's rich Cultural heritage. With lower-level decks, viewpoints, float-walks, pontoon jetties, stepped plazas and ghats, the design aims at celebrating the waterfronts and allowing people to re-engage with the historic lakes in the city.

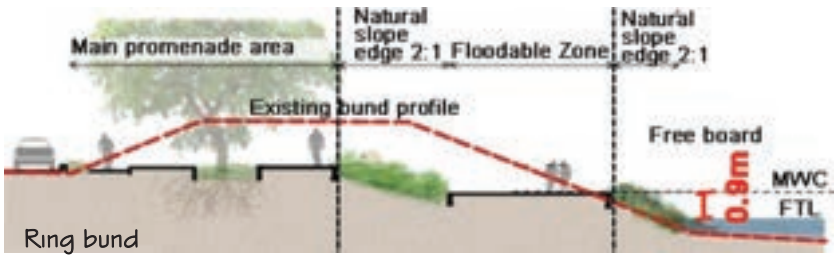


Bund Typology: Main Bund ■ Ring Bund ■

BUND STRENGTHENING

1. All slopes which earlier were covered with loose silt deposited from previous desilting drives carried out in the city have been dressed and stabilized with proper compaction.
2. Revetment is provided till the water line and then the slopes are dressed to a gradient of 1:2 (1 vertical: 2 Horizontal) to ensure self-stabilized repose angle.
3. Further protected with a geo-grid.
4. All the lake-edge slopes are planted with native grasses and rocks to further stabilize the same.





ECO-RESTORATION OF LAKES UNDER COIMBATORE SMART CITY PROJECT, COIMBATORE, TAMIL NADU

REGENERATING ECOLOGY

PLANTING STRATEGY

HIGH CANOPY LARGE SPREAD TREES

Shade to be created by planting towards south of all promenades to ensure uninterrupted views & shade

LAYERED NATIVE PLANTS AT GREEN SLOPES

Lake edge have stratified layers of native bird-attracting pollinator plants to regenerate the overall lake ecosystem.

NATURAL ROCKS USED ALONG THE LAKE EDGE,

shall provide a host of fish, small organisms, and bacteria to find space in the gaps, all of which shall help to regenerate the lake's aquatic ecosystem

FRAGRANT SHRUBS & CREEPERS

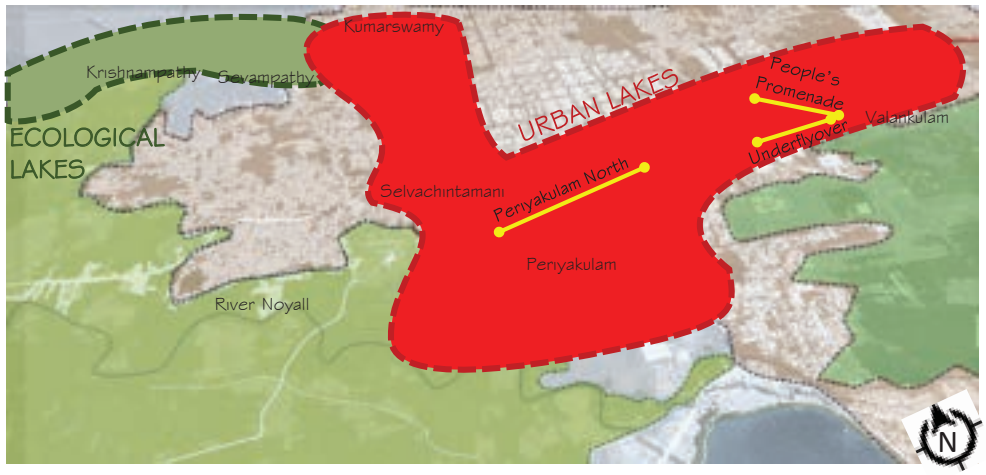
The pedestrian areas are adorned with fragrant and colorful flowering shrubs to provide sensory experience, and to attract butterflies which would then help pollinate the fruit trees, which would attract birds.

STORMWATER MANAGEMENT STRATEGY

LANDSCAPE SWALES are incorporated for rainwater harvesting so all the rainwater falling on the bunds gets collected and is allowed to recharge the groundwater. At some instances, all the stormwater from the roads is also being allowed into the roadside swales, then connected to the rainwater swales to create a stormwater management facility that not only helps filter all the water entering the lake, but also helps in rainwater harvesting from the areas around the lake,

RECONNECTING THE CITY WITH THE LAKE

DEFINING LAKES AS PER IT'S CONTEXT



The context around the lake can be categorized into two distinct types- Urban edge and the ecological/green edge. The urban edges are those where the city interfaces with the lake while the ecological edges have agricultural fields and the access to these edges are also not defined.

Each lake was thus, broadly characterized into Urban Lake & Ecological lake and, each edge of the lake was further analyzed to program the activities accordingly.

This helped in creating a city-wide urban regeneration that focuses on creating clean, vibrant & ecological people oriented public spaces.

ECOLOGICAL LAKES are designed to be more nature-centric with more ecological facilities/ activities such as eco parks, the coconut Groove Avenue Walk, Miyawaki Forest, Butterfly Garden, Rock Garden, etc.

URBAN LAKES are designed as an open space oasis for the city, where people shall have access to green public recreational spaces within their walkable distance.

The 3 QUICKWIN PROJECTS were identified as the sample stretches due to its visibility and access from the roads.

GREEN HILL PLAZA AT **PERIYAKULAM NORTH**

UNDERFLYOVER AT VALANKULAM LAKE

PEOPLE'S PROMENADE AT VALANKULAM LAKE

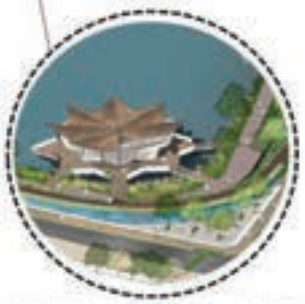
RECONNECTING THE CITY WITH THE LAKE

PRIORITISING PEDESTRIANS AND CYCLISTS WHILE CREATING COMFORTABLE PUBLIC SPACES

SUNGAM PLAZA AT VALANKULAM

GH BUS TERMINAL

HAPPY STREET AT KRISHNAMPATHY LAKE



GREEN COMMUNITY CENTER AT SELVACHINTAMANI LAKE

LEARNING CENTER AT PERIYAKULAM

EVENT PLAZA AT PERIYAKULAM

SUNSET PLAZA AT PERIYAKULAM

Active Spaces and Communication Places

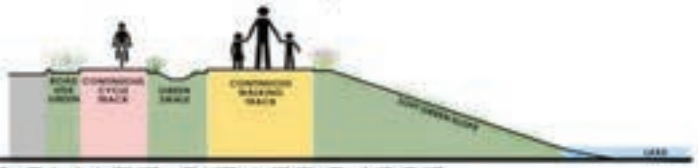
Designed as a new public realm for the city, the new lakefronts are designed as inclusive, barrier-free, and equitable spaces for all including children and elderly to come and enjoy.

Given the lack of public open spaces, the project also aimed to create public play areas targeted at making sports more accessible for all kids from the adjoining neighborhoods to avail of these new public facilities.

Amphitheaters, covered multifunctional spaces etc. are created to be used for varied activities at different times of the day. They also allow for exhibitions, events & festivals to be celebrated by the local communities around the lakes.

NMT or Cycling loop

With Ukkadam being the center-point, there are 3 loops – the North-West loop, the South Loop, and the East Loop, which connects the lakes in all directions. These dedicated cycle-walk trails along the lakes shall allow people to connect to the lakes from all across the city.



ECO-RESTORATION OF LAKES UNDER COIMBATORE SMART CITY PROJECT, COIMBATORE, TAMIL NADU

ORIENTING THE CITY TOWARDS LAKE

LAKES BECOMING THE BACKDROP FOR EVENTS!

ECO-RESTORATION OF LAKES UNDER COIMBATORE SMART CITY PROJECT, COIMBATORE, TAMIL NADU

"Even a brick wants to be something."

– Louis Kahn

Category 5

Landscape Planning & Design

Project

Park of Arches - Revamping a vacant traffic island at Tardeo Junction, Mumbai

By

Studio Infill, Pune

SPECIAL MENTION

'Kund' acts as a gathering space

Mumbai has less than 1.1 sqm/person accessible open space as against 9 sqm/person recommended by WHO. Due to the paucity of public open spaces, an alternate strategy to create such spaces is required for congested cities like Mumbai, where even pollution and traffic congestion are major challenges. **Park of Arches is an attempt to optimise the available 'land' by transforming an existing vacant traffic island into a green public open space, while redesigning a chaotic junction in the heart of Mumbai city.**

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI

More than **1.5 lakh** people lose their lives on India's roads every year

Source: World Health Organisation

30% of Road fatalities in Mumbai occur at Junctions.

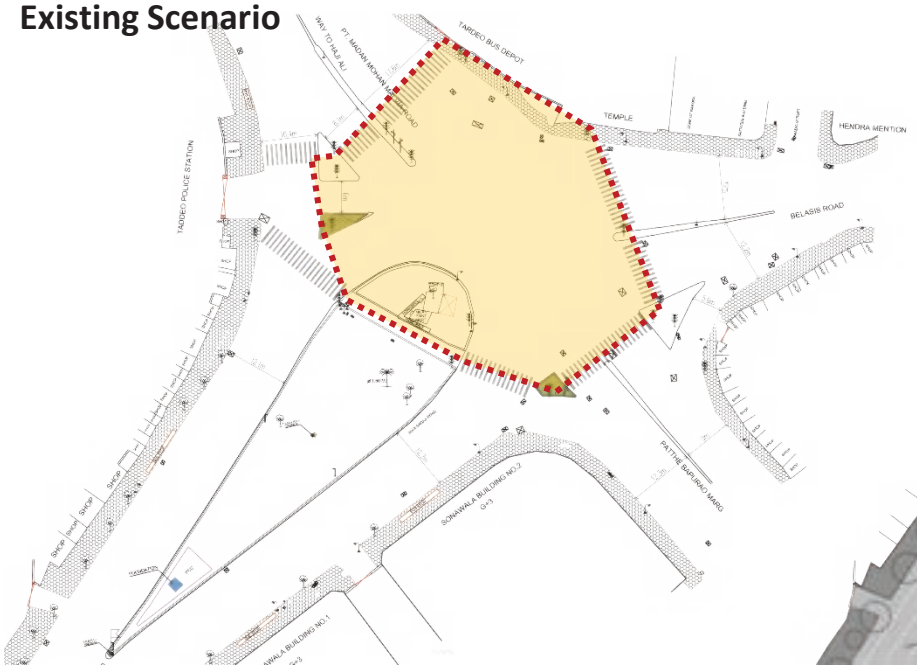
Source: World Resources Institute

Mumbai has **less than 1.1sqm/person accessible open space** in the city

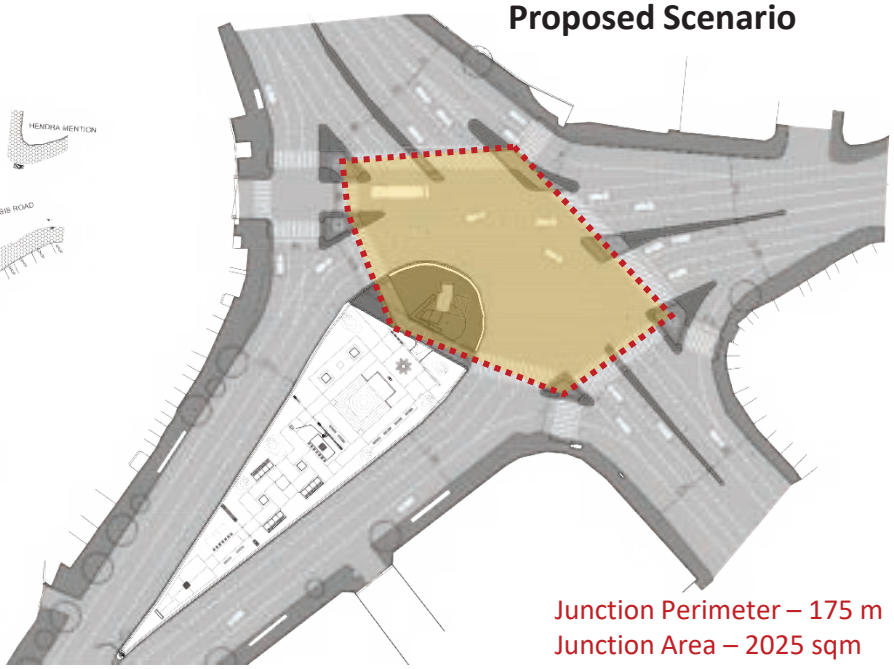
Source: Times of India

Park of Arches, started with the idea of junction design and transforming a vacant traffic island. The project is divided into two phases - Phase 1 included redesigning the island, while Phase 2 included realigning of the junction to make it safe and efficient for pedestrian and vehicular movement.

Existing Scenario



Proposed Scenario



Junction Perimeter – 175 m
Junction Area – 2025 sqm

Phase 2- Tardeo Junction Existing Scenario

Junction Perimeter - 207m | Junction Area - 2952sqm

Challenges

- Large and misaligned junction
- Safety concerns for pedestrians & motorists
- Chaotic Movement of vehicles & pedestrians
- Low visibility
- Inaccessible traffic islands

Phase 2- Tardeo Junction Proposed Scenario

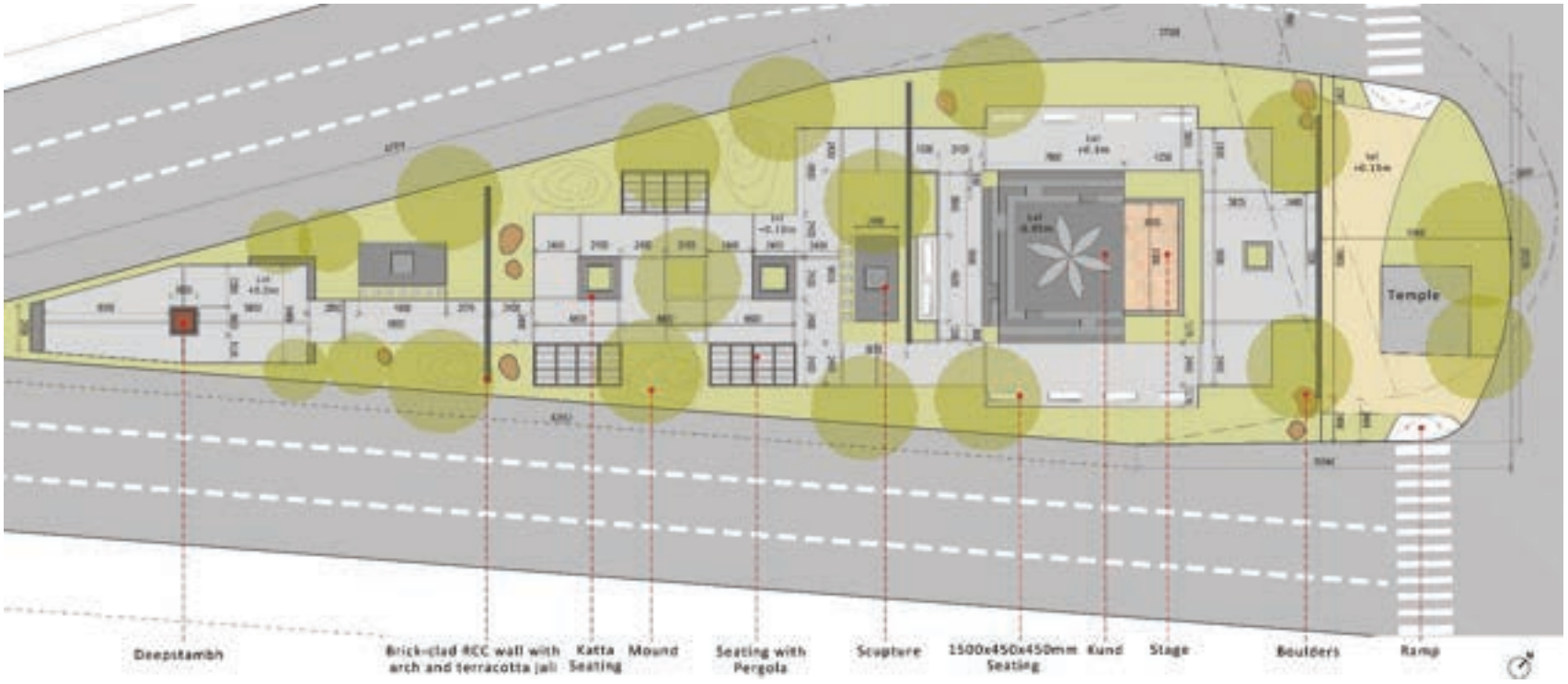
Junction Perimeter - 175m | Junction Area - 2025sqm

Advantages

- Junction Compaction and Alignment Correction
- Enhanced Safety and convenience of pedestrians
- Slower speed at left turn
- Traffic islands as pedestrian refuges and traffic channelizers
- Increased throughput, efficiency of junction (vehicles and pedestrians)
- Enhanced aesthetics, lighting and legibility,
- Improved access to Park of Arches & Universal accessibility

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI

PHASE I - PLAN OF PARK OF ARCHES



According to urbanist Jan Gehl, we need to design cities as meeting places for small events and larger perspectives. Various studies have shown the tremendous positive effect of public open space on a person's physical and mental health, especially children and senior citizens. Park of Arches is an accessible public space with opportunities for recreation, socialising, and experiencing green space. It is **an inclusive space, well received by the people, and has become a space to celebrate public life.**

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI


Opportunities to create memories

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI

Safe place for kids to play

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI






Life at Park of Arches

The space has several seating pockets and shaded sit-outs with pergolas, encouraging socialising. The park has a series of trees planted on its periphery and large shade-giving trees near seating. The plants used are hardy, suitable for the climate, and require less water. The design also has a kund which acts as a small amphitheater for events. An ambient lighting scheme ensures that the space is well-lit and attractive in the evening hours. Since the park has been opened to the public, it has received a tremendous response from all sections of society and age groups.

It is being used in multiple ways. It becomes a walking space in the morning hours, a pause point and sitting space in the afternoon for youngsters, and a play and meeting space for children, women, the elderly, and others in the evening hours. The kund is also being used for small performances, celebrations, and events by the locals.

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI

Space for musical events and celebrations

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI

PHASE 2 TARDEO JUNCTION REALIGNMENT

UN Goal No. 11, Sustainable Cities and Communities, states that by 2030, provide universal access to safe & inclusive, green, and public spaces, in particular for women and children, older persons, and persons with disabilities. The project is in alignment with this goal, providing ample opportunities for an enriched urban life for all. With over 35 trees and numerous shrubs planted, it's a green pocket in a dense neighbourhood of Mumbai, providing mental and visual relief, and contributing to the environmental benefits.

The proposed solution is about creating spaces for celebrating public life while optimising the use of available land. Our country being poised for rapid urbanisation, such solutions can be implemented in any city and are the need of the hour. The proposal is linked to the efficiency of mobility, environmental benefits, and enhanced mental and physical health of the users.

Project Video: https://www.youtube.com/watch?v=OHIVpoLb7As

PARK OF ARCHES – REVAMPING A VACANT TRAFFIC ISLAND AT TARDEO JUNCTION, MUMBAI

"We are what we repeatedly do. Excellence then, is not an act, but a habit."

– Aristotle

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CIN: L74899DL1970GOI005276
GSTN: 07AAACH0632A1ZF