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EDITOR'S NOTE

Our profession is always in a state of flux and is often a **reflection** of the **times** we see around us. While history may judge us, the present tests us on how we respond in the face of adversity and the mundane as well. Do we exhibit an **attitude** of **resilience** and thrive in **collaboration** even when in competition? While we have conversations on inclusion and **universal** approaches, the **brilliance** of a society where these principles are the norm still eludes us. **Education** and awareness are the only ways forward. We know of contemporary projects, both built and **unbuilt,** that demonstrate **honesty** and **compassion,** even while forging ahead with **technology** and **innovation.** We need to celebrate these beacons that can transform us as a community of architects and also change the way society views our profession.

In the last 26 editions of the journal, we have tried to identify such beacons: projects, architects, thought leaders, ideas, opinions, theories, memories, theses—all that redefine **excellence** and **approbation.** This phase of JIIA has seen issues focused on **housing, sports, healthcare, hospitality, institutions,** and **religious structures.**

Through the last edition of this term, we commemorate the 26 themes that we have brought to you readers so far. We began ideating for the journal with a great deal of **emotion** when we got together as the editorial board for the term 2021–23, and as we come to the sunset of our term, we look back with great satisfaction. While this edition has been titled **Epilogue,** it is only the epilogue for this term of the editorial board. It is time for a change of guard and for the new team to take on the reins. I am honoured to have been asked to act as the editor for this edition and have enjoyed working together to bring this colourful finale to you. I have always believed that there is no finishing line, and this is yet another journey that continues with all those walking its path, assuming different positions - as readers and as leaders.

Warm Regards
Ar. Gita Balakrishnan
Co-editor

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Dr. Pratheek Sudhakaran

Ar. Tushar Sogani

PRESIDENT'S MESSAGE

Dear Members,

Greetings!

It was an honour and privilege to serve the Institute, which has a long history of 106 years, during the last two and a half years as President, with good wishes from all of you. Though the first year we were still gripped by the pandemic, the later one and a half years were eventful with a number of National, Regional, Chapter, Centre and Sub-Centre programmes and initiatives for the participation and benefit of the members.

An enhanced Journal, a simplified online membership registration process, recognition of Young Architects from Chapters, the Best Outgoing Student Medal for the affiliated colleges, and an e-magazine 'FOCUS' for students were implemented, apart from framing guidelines for various National, Chapter, Centre and Sub-Centre Office Bearers and EC, for programmes, for student centres, etc. A point-based Key Performance Index was introduced as a yardstick to award the Best Chapter, Centre and Sub-Centre. Many Chapters, Centres and Sub-Centres were encouraged to organise regular member participation discussions on issues of professional importance and also interact with the local authorities.

As someone who travelled to various parts of the country, it was encouraging to see many young architects doing excellent work in various facets of architecture and taking an active part in the organisation and affairs of the Institute. I am sure that these numbers will grow in the future and provide an impetus for progressive policies to be addressed by IIA.

It was an endearing experience to work with so many knowledgeable members across the country and address some of the issues. I thank each one of you for your contribution and support in the service of the Institute.

Elections for the term 2023–25 were conducted, and results were declared. I thank all the members for participating in the election. Our gratitude to the Scrutineers for their meticulous and objective approach. Best wishes to the new teams for a successful tenure.

I appreciate and thank all the Office Bearers, National Council Members, all Chairpersons, and Members of the Executive Committees, for their cooperation and goodwill towards the Institute.

Warm regards,
Ar. C. R. Raju
President, IIA

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POEM

FADING ECHOES

Dr. (Ar.) Pratheek Sudhakaran

In the depths of my soul, a sadness dwells,
Yet, a joy so profound within me swells,
For I've had the privilege, a blessing untold,
To work with a team of architects so bold.

Together we ventured, in harmonious grace,
Towards the journal, an esteemed embrace,
The Indian Institute of Architects, our quest,
With Lalichan Zacharias, the leader, the best.

Mukul Goyal, a star in the architect's sky,
Guiding us with wisdom, talent held high,
Manguesh Prabhugaonker, a visionary's might,
Weaving dreams with his designs, pure delight.

Gita Balakrishnan, a creative force so strong,
Her artistic brilliance sings an enchanting song,
Shilpa Sharma, the architect with a gentle touch,
Her passion and dedication, we cherish so much.

Brijesh Shaijal, an innovator, bold and wise,
Bringing forth ideas that mesmerize,
Tushar Sogani, a master of form and art,
His sculptures, a testament to his soul's part.

Together, a constellation of brilliance we became,
A symphony of talents, each with their own aim,
Through teamwork and spirit, our hearts aligned,
Creating a journal, a treasure we'll find.

International standards, we sought to meet,
Inspiring the architecture community's beat,
With articles, conversations, and papers profound,
Sketches and travelogues, a world unbound.

We'll be the voice, the beacon, the guide,
To architects in India, let our words provide,
A testament to passion, creativity's grace,
As we continue this journey, each step we embrace.

So let sadness and joy intertwine,
As we cherish memories, divine,
Grateful for this opportunity, we'll forever be,
A team of architects, united, strong, and free.

Dr. (Ar.) Pratheek Sudhakaran is an internationally recognised Building Scientist and expert in the field of High-Performance Buildings, Envelope Information Modelling and Bio-inspired Architecture. He graduated from the University of Mumbai and was an Indo-US Science & Technology Research Fellow at the High-Performance Building Lab at Georgia Institute of Technology, Atlanta, USA. He is currently the Executive Director at the Asian School of Architecture & Design Innovations, Cochin and Board of Studies Member (Architecture) at Mahatma Gandhi University and a Doctoral Guide at Amity University and SPA, New Delhi.
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TRANSIT-ORIENTED DEVELOPMENT: A STEP TOWARDS SUSTAINABLE CITIES

Ruchika Mittal

ABSTRACT

Mobility has been fundamental component of the social and economic lives of the societies.

Contemporary economic processes have been accompanied by a significant need for increased mobility and higher levels of accessibility. The burgeoning population has further placed a strain on urban mobility, spawning issues such as congestion, pollution, irritability, and accessibility, among others. In such a scenario, it is of significant importance to give a boost to developmental activities while maintaining sustainability.

Developing transport systems has been a continuous challenge to satisfy mobility needs, support economic development, and participate in the global economy.

The current transport systems are the outcome of a long historical evolution marked by periods of rapid change where new transport technologies were adopted. On the face of it, development corridors appear to be straightforward. But holistically, Transit-Oriented Development is the exciting, fast-growing trend in creating vibrant, liveable, sustainable communities. TOD is the creation of compact, walkable, pedestrian-oriented, mixed-use communities centred around high-quality transit systems. This makes it possible to live a lower-stress life without complete dependence on a car for mobility and survival.

This paper tries to explain that there is a "positive link between TOD and sustainable development growth.

Key words: *transit-oriented development, carbon footprint reduction, economic and social development, mixed land use, walkable and cycleable cities*

Background

India is urbanising at a rapid pace, with the urban population rising much faster than its total population. The urban population in India, which is nearly 377 million, is poised to grow to 600 million by 2030. With India witnessing high economic growth, Indian cities are growing at a faster rate than other cities in the world.

Urbanisation has resulted in an increase in trip lengths, higher usage of private vehicles, problems with pollution, and increased demand for infrastructure. To address these issues, many cities have strengthened their public transportation systems by developing mass rapid transit systems. It is, however, important to efficiently use these systems by integrating land use with the transport infrastructure to make the cities livable, healthy, and smart.

The Government of India is investing a lot of money in transport development in the country to promote more and more usage of public transport to control pollution and vehicular traffic, promote economic development, and make transport affordable for all classes of people.

India has several types of transport facilities, such as buses, taxis, rickshaws, trains, metros, airlines, and waterways connecting both interstate and intrastate. Different modes of transport being used must be well integrated with each other so that travelling becomes smooth and the passenger has an easy experience while using public transport.

A Multi Modal Transit Hub is a place where passengers and goods are exchanged between different vehicles or transport modes. Multi Modal Transit Hubs are very important in the present scenario to cater to daily travel needs, control the use of private vehicles, reduce traffic congestion, promote the use of public transport, increase safety on roads, promote commercial establishments along with them, and boost the city's public transport network.

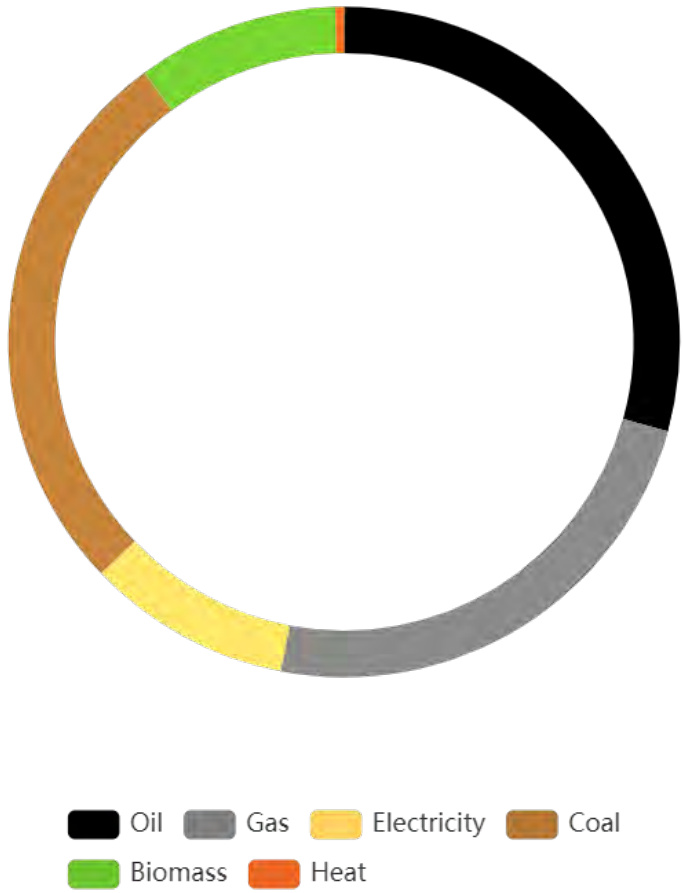

Fig. 1: Breakdown of energy usage (2021)
(Source: Enerdata World Energy and Climate Statistics Yearbook 2022)

Introduction

The idea of complimentary land development around transport corridors is not new in urban planning history. Organically evolved Indian cities were dense with diverse activities along the main transport corridors.

Any Transit-Oriented Development is a planning strategy that integrates the land use and transport system, thereby creating lively, sustainable, pedestrian- and cycling-friendly areas while encouraging people to choose public transit over cars. "A widely accepted description of TOD is an urban environment with high densities and mixed and diverse land uses around a transit node". Transit-oriented development is essentially any macro or micro development that is focused around a transit node and facilitates complete ease of access to the transit facility, thereby including people who prefer to walk and use public transportation over personal modes of transport.

TOD Reto-fitting: With the emergence of high-capacity public transit systems, the cities now need to be retrofitted in terms of well-designed public spaces, streets, and built-form within existing land-use plans at the regional, city, and nodal levels.

TOD Planning: Future cities need to be built around extensive transit use.

Node level, which includes many land parcels

TOD policies are a paradigm shift in the way neighbourhoods and cities are planned in general and herald a new way of linking urban systems to day-to-day living such that an average person can spend more quality time for social and recreational purposes rather than getting stuck in traffic jams and decreasing one's productivity and health.

The TOD also ensures judicious land use by increasing the developable area through relaxation of FSI norms, thereby reducing the chances of urban sprawl and leading to sustainable development. TOD envisages a residential development at a walking distance of 500–800 m along the transit corridor. It encourages public transportation adoption. It also increases the financial viability of transit investments. The TOD-integrated approach is being adopted across the globe. Some megacities, such as Singapore, Hong Kong, Stockholm, and Washington, D.C., have integrated TOD into their master planning and are reaping its benefits in terms of improved quality of life and superior customer experience.

Fig. 2 : Node-level TOD planning Adopted from the next American Metropolis: Ecology, Community, and the American Dream, Peter Calthrope
(Source: Enerdata World Energy and Climate Statistics Yearbook 2022)

At the national level, with the announcement of mission-based programmes like JNNURM in 2005 and AMRUT and Smart Cities in 2015, there has been a huge emphasis on investments in public transport. Transit systems like metro rail and Bus Rapid Transit (BRT) have found their way into many cities, including Delhi, Mumbai, Kolkata, and Chennai. Bengaluru, Hyderabad, Ahmedabad, Rajkot, Surat, Pune, Hubli-Dharwad, Lucknow, Kochi, Jaipur, Bhopal, and Indore, among many others.

Vision of TOD

The vision of the policy is three-fold, leading to sustainable development:

1. **Enable Transformation:** To assist in the transformation of cities from private vehicle-dependent cities to public transport-oriented developments
2. **Accessible Public Transport:** to promote the usage of public transport by making it accessible, encourage green mobility by encouraging people to walk and cycle, and curb other negative impacts of motorization.
3. **Compact Walkable Communities:** to create livable and affordable communities that are compact and walkable

Objectives of the TOD Policy:

TOD integrates land use and transport planning to develop compact growth centres to achieve the following objectives:

1. To promote the use of public transport, which would increase the share of transit and walking trips and also result in a reduction in pollution and congestion in the influence area.
2. To provide all the basic needs of work, shopping, public amenities, and entertainment in the influence zone with mixed land-use development.
3. To establish a dense road network within the development area for safe and easy movement

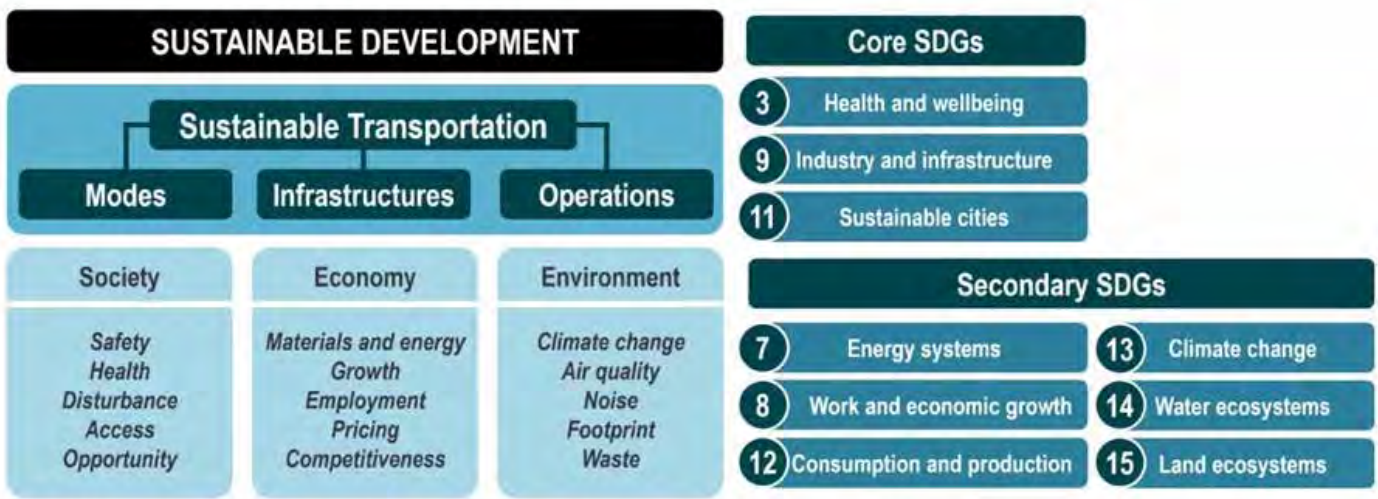

Fig. 3 : Sustainable transport goals Sustainable public transport is the provision of services and infrastructure for the mobility of people and goods, advancing economic and social development to benefit today's and future generations in a manner that is safe, affordable, accessible, efficient, and resilient while minimising carbon and other emissions and environmental impacts.
(Source: transportgeography.org)

4. To achieve a reduction in private vehicle ownership, traffic, and associated parking demand.
5. To develop inclusive habitat so that people dependent on public transport can live in livable communities within walking distance of transit stations.
6. To integrate the EWS and affordable housing in the influence zone.
7. To provide all kinds of recreational, entertainment, and open spaces required for a good quality of life in the influence area.
8. 8. To ensure the development of a safe society with special attention to the safety of women, children, senior citizens, and the differently abled.
9. To prevent urban sprawl
10. To reduce carbon footprints by shifting towards environmentally friendly travel options.

India is at a critical juncture in its infrastructure, energy, and mobility development. While many Western countries have developed a system dominated by private vehicle ownership and sprawl, India is home to a number of supporting conditions that make it possible to take a different path. As the second-most populous country in the world, India's potential to create a shared, electric, and connected mobility system could produce major benefits domestically and globally.

A lot of work has already been done at various levels. This paper takes up three case studies:

- Ahmedabad, Janmarg
- Rapid Rail Transport System: RRTS Delhi NCR
- Anand Vihar Metro Transit Hub

1 Case Study: Ahmedabad, Janmarg

In Ahmedabad, with a population of more than 5.5 million, commuting options were limited. An affordable public transport network that would enable people to reach their destinations in the shortest possible time and in the easiest possible manner was required. The Ahmedabad bus rapid transport system (BRTS) is that system. Going by the name 'Janmarg' or 'the people's ways', the BRTS began operation in October 2009.

Janmarg is designed as a strategic intervention to attract latent transit demand, improve air quality, and help the city remain compact. Its salient features are:

1. A closed BRT system with median bus stations; specially designed buses with right-hand side doors; and bus floor and bus station platform heights matching.
2. A complete revamp of the right of way to include cycle tracks and pedestrian facilities.
3. A commercial speed of 25 kph, enabling faster commuting and off-board fare collection.

4. Janmarg has made several innovations in the planning and design of the system, including a fully pedestrian- and transit-only street section at one location and a one-way bus lane to manage narrow rights of way.

1. At a larger level, Janmarg has demonstrated that the BRT system can work in India. The activity has become the backbone of public transportation in the city.

Mitigation and Adaptation

Ahmedabad is reaping benefits in the form of faster and safer commuting, mitigation of the impact of air pollution, and an overall positive impact on urban development. For example, 20 to 22 percent of the commuters have moved from using their motorcycles to the bus. With an average trip length on the bus of 7km, this translates into a saving of almost 200,000 vehicle kilometres per day (5,000,000 per month).

Fig. 4 : Sustainable transit development
(Source: United Nations Climate Change, UN Global Climatic Action Awards)

65% of the people who use Janmarg walk to and from the bus station. Typically, these trips are between 0.2km and 1.5km.

Janmarg now operates over a 135-kilometre network, carrying over 15,00,000 passengers. This translates to vehicle mileage savings of 750,000km.

Social and environmental benefits

Janmarg has been a catalyst for the rejuvenation of Ahmedabad. The entire network has been planned in a manner that ensures that almost all destinations are covered. The appeal of the system has reached previously underserved social groups. Similarly, the widening of the BRT system with new roads and bridges has helped better connect the city.

Potential for scaling up and replication

The success of the BRT system has also led to an overall improvement in the service quality of the Ahmedabad Municipal Transport Service (AMTS). All old diesel buses with obsolete technology have been replaced with CNG buses. AMTS has added more than 900 new buses over the last four years. The routes for these buses are now being operated as feeder services for Janmarg.

Janmarg is now part of a larger regional plan for Ahmedabad, where transit corridors have been identified and the system is expected to have much wider coverage. It will also be integrated with the proposed rail-based transit system.

2 End of Suburbs: Case Study RRTS Delhi NCR

The Regional Rapid Transit System (RRTS) is an initiative in Delhi, NCR, and the nearby regions. It was envisaged in 2007, when the daily passenger vehicles crossing the borders of Delhi reached 11 lakh with the dynamic expansion of the National Capital Region (NCR). The proposed corridors are the Delhi-Sonipat-Panipat, Delhi-Gurgaon-Alwar, and Delhi-Ghaziabad-Meerut corridors, which aim to halve travel time between these NCR towns while serving the increase in transport demand. The combined length of the project is 381 km, with 48 stations in Phase 1 (NCRTC). High speeds of travel, good frequency, ease of use, and multi-modal connectivity are essential parameters for the success of such inter-city terminals and transit systems. The regional network will provide better job opportunities to people staying in the peri-urban fringe areas of Delhi while reducing pollution due to motorised vehicles. Gannaur, Samalkha, Panipat Depot, Guldhar, Duhai, Meerut South, and Modipuram are some of the major stations that will be developed into self-contained TOD pockets with residential, commercial, and employment opportunities along the RRTS.

3 Case Study: Anand Vihar Bus Station, Delhi

Delhi is considered to have the highest road density.
Anand Vihar transit Hub is located in the Anand Vihar locality of East Delhi. In accordance with a decision taken by the Ministry of Urban Development in consultation with the Delhi Development Authority and the Govt. of Delhi, Anand Vihar became functional with effect from March 1996.

It is a multi-modal transport hub where the three modes of transportation (Railways, metro, and Bus Terminus) meet within a distance of 50 m.

1. Have a connection to NH 24
2. Inter-state and intra-state bus facilities are available and cater to many local and distant passengers during the whole day.
3. One of the important transport hubs after Kashmere Gate ISBT and Sarai Kale Khan ISBT.
4. The interchange facility at Anand Vihar Transit Hub enables passengers getting off trains to take the Metro to almost any part of the city. Besides, the bus terminal at Anand Vihar that connects Delhi with many neighbouring states, including Uttar Pradesh and Uttarakhand, Punjab, Haryana, Jammu and Kashmir, and Rajasthan, has a huge benefit from the interchange station.
5. RRTS trains will pass underneath the DMRC's Line 4 (Blue Line). Anand Vihar RRTS station's concourse-level entry will adjoin the Delhi Metro entry. Further, the RRTS station will have multimodal integration with Anand Vihar railway station, the Anand Vihar ISBT, and the Uttar Pradesh State Road Transport Corporation's Kaushambi bus adda.

It is one of the most modern stations in Delhi, Spread over 42 hectares of area, this terminal is one of the largest railway stations, catering to almost three lakh passengers travelling on 272 trains daily from this terminal after the second phase of the station becomes operational.

Under Phase III, Anand Vihar will become an interchange station with the Inner Ring Road line.

In the long term, there will be a significant improvement in public transit ridership, a reduction in vehicular congestion, and a reduction in greenhouse emissions and pollution.

- It has linked all parts of the city in a seamless fashion, which helps alleviate the massive transport problem in Delhi.

- By providing rapid connectivity to IT Hubs and commercial centres, this hub boosts productivity and growth by reducing commuting time.

Fig. 5 : Transit Hub at Anand Vihar
(Source: Google Earth)

Along with this, the revised TOD policy will enable transit-oriented development around upcoming modes of public transit like BRTS, LRT, Metro Lite, and Metro-Neo, developing a long-term sustainable system.

Conclusions

"Sustainable urban development is the way forward for cities to mitigate climate change, and Integrated urban places designed to bring people, activities, buildings, and public spaces together, with easy walking and cycling connections between them and near-excellent transit service to the rest of the city are the way to do it."

Which means inclusive access for all to local and citywide opportunities and resources by the most efficient and healthful combination of mobility modes, at the lowest financial and environmental cost, and with the highest resilience to disruptive events, works for all.

It can be said that:

"Inclusive development is an essential foundation for long-term sustainability, equity, shared prosperity, and civil society in cities".

TOD is a futuristic concept to usher in a sustainable urban transformation in line with the Sustainable Development Goals, especially Goals 11 (Mobilise Sustainable Cities and Communities), 12 (Organise Climate Action), and 13 (Influence Responsible Consumption and Production). Hence, it should be the centrepiece of urban development policies to ensure a plethora of benefits for generations to come.

TOD can offer a higher quality of life, but because it offers a triple bottom line solution to economic, social, and environmental sustainability

Fig. 6 : Economic and social outcomes of sustainable transportation
(Source: Adopted from the World Bank's 2017 Global Mobility Report, Tracking Sector Performance, Washington, DC)

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REDEVELOPMENT OF FOSSIL PARK IN BALASINOR

Prashant Basawaraj. L. & Ar. Mahesh Nagecha

1 INTRODUCTION

With the rise of geotourism, many important paleontological field sites are being conserved in a variety of ways. A genuine geo-tourism development strategy based on the local geology and palaeontology is the key to designing the fossil parks. The fossil forest is considered a non-renewable natural resource to be preserved not only for the admiration of future generations but also to impart knowledge on the past climate, past depositional environment of sediments, past geographical conditions, relative age determinations, and past ecology. From a geo-tourism promotion perspective, the fossil forests have exceptional heritage and scientific values, as admired by UNESCO with their recognition under the Global Geo-Park Network. However, the fossils are fragile and very sensitive, even to the processes of weathering, for which special care is mandatory while promoting geotourism in fossil parks. Geo-conservation is a management strategy for the protection of various geo-heritage sites with high scientific and tourism values. The aim of geo-conservation is the dynamic preservation and maintenance of various geo-heritage sites. With a focus on the protection of geosites, geotourism puts emphasis on the optimal utilisation and diffusion of knowledge about earth heritage resources. The knowledge of geosciences imparted through the educational approach of geo-tourism ultimately benefits the community and the protection of the environment at the national and local levels. In order to ensure the best possible protection, it is essential to involve the local communities in geo-conservation because authorities are unable to protect the sites directly due to various constraints. Geotourism yields economic benefit for the community by imparting education and raising awareness about geosites.

1.1 DEFINITION OF FOSSIL PARK

A *fossil park* is a protected area with rich deposits of fossils. *Fossil parks* may be used to educate the public. Fossil Park exhibits a rich collection of Fossils of different types. Fossils are paleontological treasures that manifest the remains of organisms that existed in past geological ages. The study of fossils provides important keys for learning about the diversity and evolution of life through time. Fossils are of different types, e.g., invertebrate fossils, vertebrate fossils, wood fossils, and stromatolite fossils. Stromatolites, the oldest among fossils, are the unique occurrence of bia-strome structures produced by blue-green algae in association with carbonate rocks in shallow water.

1.2 AIM OF THE PROJECT

The purpose of planning is to design a fossil forest as a living geomuseum in order to ensure the best possible protection. As geo-tourism yields economic benefit for the community by imparting education and awareness on geo-sites, it is praised for attaining sustainability perspectives.

1. Encouraging Geo-tourism.
2. Encouraging growth in the field of palaeontology.
3. A world-class museum with international standards for attracting tourism.
4. Proper circulation and easy access to the fossils remain with proper security of the fossils.
5. Connecting past and future through Architectural philosophy.
6. Creating good employment opportunities for the locals.

1.3 OBJECTIVE

In the preservation of a geo-site, there arises the scope of appreciation of its scientific, educational, aesthetic, cultural, and recreational values for the current as well as future generations. Under such circumstances,

With the above brief information, we come across a basic question:
What is the need for redeveloping the existing Fossil Park project?

"India has some of the world's greatest paleontological resources," says Nigel Hughes.
(Professor of Geology, University of California)

The first dinosaur fossils found in Asia, belonging to a kind of sauropod, were unearthed in 1828 in Jabalpur, in central India's Narmada Valley. Ever since, the subcontinent has yielded a stream of important finds, from some of the earliest plant remains through the reign of dinosaurs to a skull of the human ancestor *Homo.* In 1997, local authorities designated 29 hectares encompassing the nesting sites as the Balasinor Dinosaur Fossil Park in Raiyoli. But poaching continued largely unabated in the park and outside its boundaries, Mohabey says. Even now, the park is not fully fenced, and the museum building, which has been ready since 2011, is still not open. "I have myself seen a beautiful dinosaur nest just disappear from the Raiyoli park despite our efforts to hide it from the public gaze," says Aaliya Farhat Babi (Fig. 5), a local princess who moonlights as a fossil conservationist.

2 METHODOLOGY

Fig.1 shows the methodology chart for the study. This methodology chart explains the first step in the study of general information about fossil park planning. This includes the components of fossil park planning, the definition of fossil parks, and their complex services. The next step is the study of fossil park planning using various case studies. Then the classification of issues in different aspects is made from the findings. Then a detailed study is made for each aspect through different case studies. Finally, the concept for the design has evolved and progressed towards development.

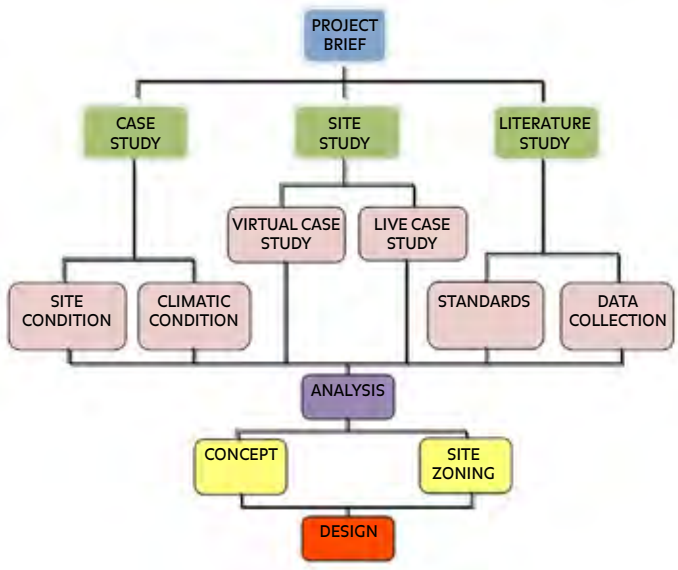


Fig. 1 : Methodology
(Source: Authors)

Fig. 2 : Proposed site
(Source: Authors)

2.1 PROJECT BRIEF

The site is located (Fig.2) in the village of Rayoli in Balasinor. Accessible from NH8. The nearest airports will be Ahmadabad Hansol Airport (100 km) and Baroda Airport (110 km).

- The total area of the proposal is 21,600 square metres. Within the built-up area, there are 10,500
- Ground coverage is considered 50% of the total plot area.
- Total 21,600 sq m includes parking, passages, services, open corridors, open gardens, restaurants, and a landscape area.
- The site measures 160 m by 135 m.
- Contour levels vary from 0 to 10 metres with increasing distance.
- An old structure or building is used for the entrance amenities and services.

2.1.1 RAYOLI FOSSIL PARK, RAYOLI-BALASINOR

A place that displays a rustic charm in its air and culture. Situated in Mahisagar district is Balasinor, a former Princely state. The place has been flooded with researchers, and a number of excavations have taken place in the area, whose findings revealed the fact that there were more than 13 species of dinosaurs that thrived around 65 million years ago. The fossil park here contains life-sized statues of those gaint creatures(Fig. 4 and Fig. 5), and further excavations have found a squat, thick-legged, heavy-bodied carnocotous dinosaur with a crested horn, Rajasaurus Narmandesis, king of Narmada. The Dinosaur Museum in Balasinor (Fig.3), Gujarat, takes visitors on a thrilling journey into the world of dinosaurs, more than 65 million years back in time. Spread over a vast area of 25,000 square feet, the museum has 10 different galleries that awe visitors with their exhibits.

2.1.2 CLIMATIC INFERENCES

Temperature:

- The highest temperature was 48ºC during the month of May.
- The lowest temperature was 12ºC from December to February.
- The average temperature throughout the year is 32ºC to 38ºC.

Rainfall and Humidity:

- Average annual rainfall: 510–1020 mm.
- Primary rainy season: June–September

Fig. 3 : Existing plan of park
(Source: Rayoli park)

Fig. 4 : Existing sculpture
(Source: Authors)

Fig. 5 : Existing sculpture
(Source: Authors)

Wind Speed:

- The wind is dry and hot during the summer season (March to May).
- Cold from October to December
- Warm from January to March.
- The average speed of the wind is 8 m/s throughout the year (Fig. 6).

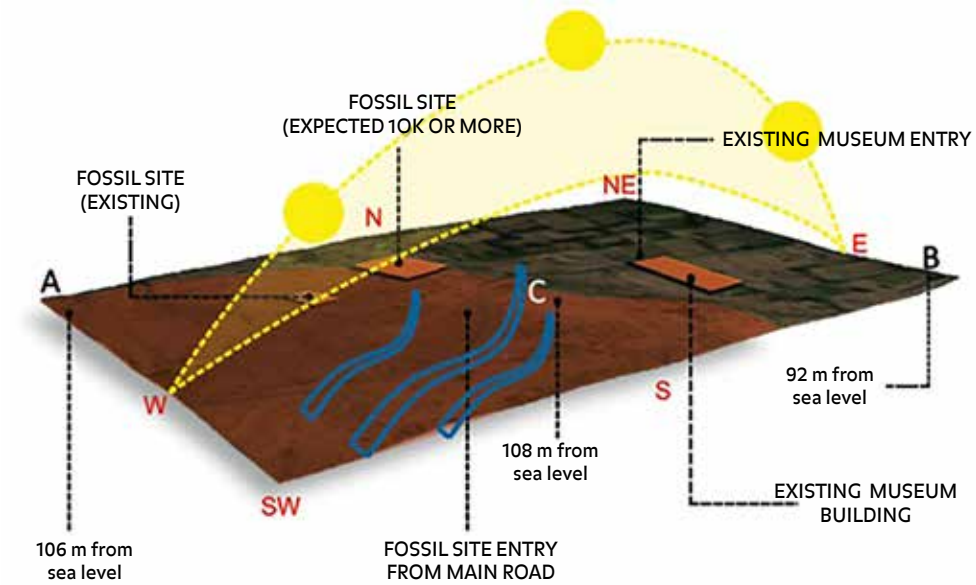
2.2 CASE STUDY: A detailed case study has been conducted in the below-mentioned areas. Each case has its own significance for architectural philosophy.

LIVE CASE STUDY
2.2.1 EXISTING FOSSIL PARK RAYOLI
2.2.2 CHHATRAPATI SHIVAJI MAHARAJ VASTU SANGRAHALAY MUMBAI, INDIA
2.2.3 SAKETI FOSSIL PARK - HIMACHAL PRADESH
2.2.4 INDRODA FOSSIL PARK, GANDHINAGAR

ONLINE CASE STUDY
2.2.5 NATIONAL HISTORY MUSEUM - LONDON, UNITED KINGDOM
2.2.6 FIELD MUSEUM - CHICAGO, UNITED STATES
2.2.7 VIRASAT-E- KHALSA

3. AREA

The total plot area for development of the proposed project is 20350 sq m. The development of the design for each section has been carried out as per the requirements.



- The Contour Level Of The Site From Point A To Point B is 106 M From Sea Level And 92 M FromSea Level.
- Point C is The Top Most Level On Site is 108 M From Sea Level.

Fig. 6 : Climatic survey
(Source: Authors)

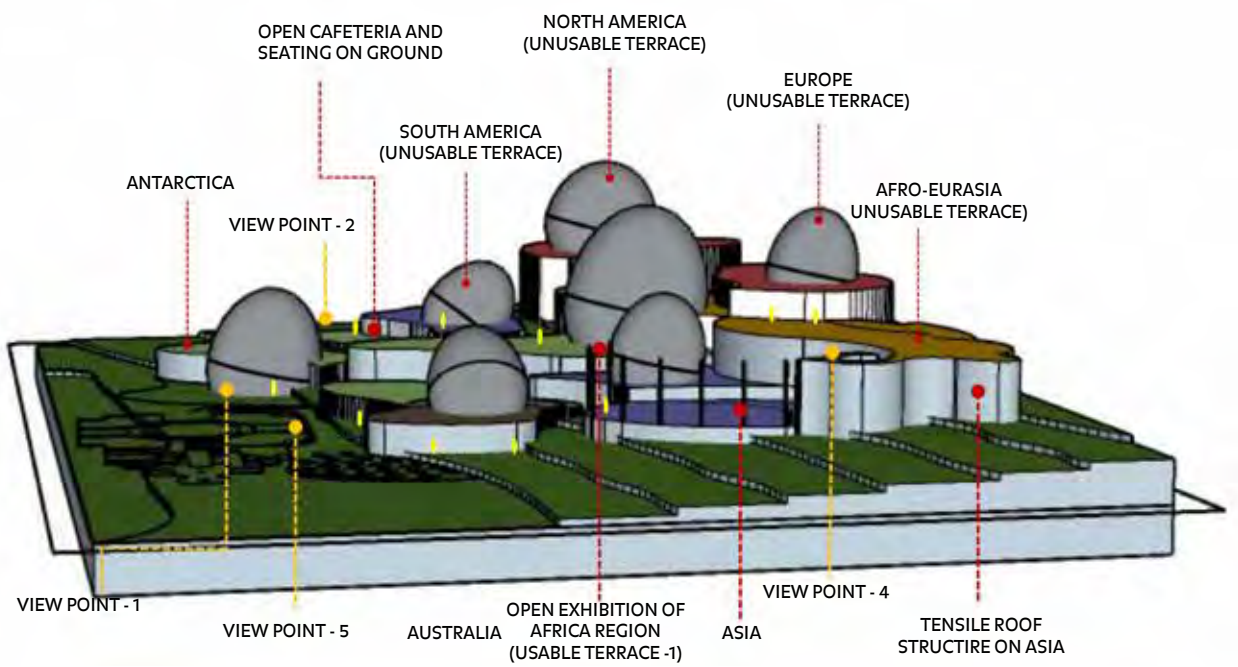


Fig. 7 : Conceptual view
(Source: Authors)

4. CONCEPT

Inspiration for the design of this museum came from the fossils found at Rayoli, which look like eggs (Fig. 9) lying in a nest. The goal of the project is to tell the world about the fossils in India and provide a comparative experience for visitors from around the world. With the idea of making Rayoli the central hub for dinosaurs and fossils all over the world, the design evolves as a world map being the nest and the seven continents being the eggs lying in the nest. Continents, namely, Asia, Europe, South America, North America, Africa, Australia, and Antarctica, all have one or more dinosaur fossils within them. Thus, the idea is to group all the found fossils and types of dinosaurs that lived on different continents during different timelines in one place, making Rayoli one of the largest tourist attractions (Fig. 7 and Fig. 8).

4.1 DESIGN DEVELOPMENT

Based on the Idea, the situational analysis, and the derived programme chain, the design was developed in such a way that the basic form of a fossil egg and the outline of the maps of each continent were combined to give shape to the main areas of the fossil park. These areas are further connected through the pathways that have cafeterias, seating areas, etc. alongside them for the visitor to relax and enjoy the landscape and the view of the entire area.

The contour levels act as the connecting component of the design, leading the viewer through each area of the fossil park. Once the visitor approaches the main entry, they are without any confusion led through the exhibition halls, outdoor display areas, cafeteria, recreational area, etc. until the very exit of the park. E.g., the entrance gate leads to the inquiry counter, which further leads to the admin building for ticketing, etc.; from there, the pathway guides them to the first continent display, i.e., Antarctica, then to South America, further to North America, leading to Europe, then to Africa, connecting to Asia, and lastly to Australia, which is leading to the exit.

The old exhibition building has been redesigned to serve as the administrative building of the park, which further leads to the exhibition halls. Using the contour level, the formation of each continent is achieved, where an exhibition hall in the form of an egg displays the information and replicas of dinosaurs and fossil remains found on that particular continent. Each area has been designed such that it creates an interesting flow of pathways using different levels and connecting each area (Figs. 7, 8, and 9).

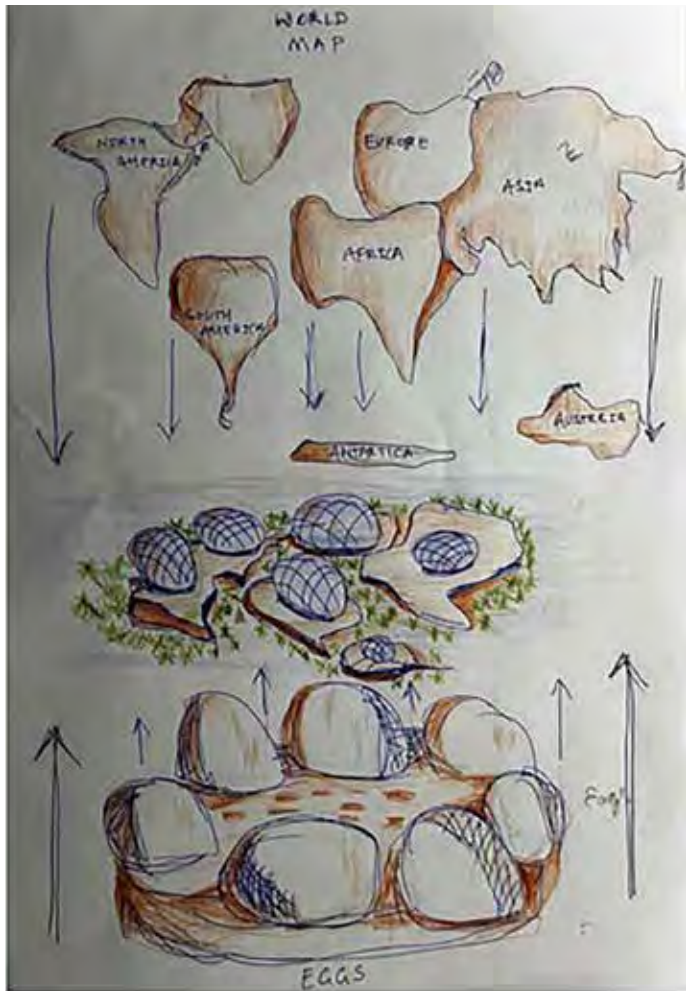


Fig. 8 : Concept development
(Source: Authors)

Fig. 9: Eggs in a nest
(Source: Miquel Crusafont Catalan Palaeontology Institute)

4.2 ZONING
Distribution of the areas according to their use, and in such a way that they do not become obstruction for one another, rather have a perfect continuity and flow of spaces (Fig. 10).

4.3 GREEN BUILDING CONCEPT
Detailed study and implementation of

1. Rainwater harvesting
2. Installing roof-top solar panels on parking kiosks
3. Electric vehicles for interior access, making it a zero-pollution zone.
4. Implementation of green roof technology with a vertical garden for temperature control

4.4 DESIGN GOALS AND ISSUES
- Environment and microclimate: the surrounding environment and the microclimate will help understand the reason for the orientation of the structure.
- User behaviour and requirements: Studying the functioning of a place helps frame the design requirements.
- Form and function: The form of the building should merge with the surrounding environment. Form and Function go hand in hand. The form of the building should be able to convey the function of the building.
- Site Planning and landscape detailing: In such a way, there should be clear traffic movement and easier pedestrian access.
- Horizontal and vertical circulation: Horizontal circulation consists of elements such as corridors and lobbies. Vertical circulation includes elevators, staircases, ramps, etc. The efficiency of the placement of these services should be appropriate.
- Building services, such as Fire Alarm systems, HVAC systems, and water supply systems: The workings of Fire Alarm systems, HVAC systems, and Water supply systems should be examined, and their space requirements should be appropriate.
- Design detailing considering the Barrier-free environment: Implementation of the Barrier-free architecture for comfortable access for disabled people
- Parking details and standards: There should be appropriate four- and two-wheeler parking as per the standards.

5. FLOOR PLANS
"Architectural marvels have always been bridges between the past and the future." Organic form indicates the flow of design sensitivity towards the overall project. Thus, based on the Idea, the situational analysis, and the derived programme chain, the design was developed in such a way that the basic form of a fossil egg and the outline of the maps of each continent were combined to give shape to the main areas of the fossil park (Fig. 11 and Fig. 13). The contour levels act as the connecting component of the design, leading the viewer through each area of the fossil park. Distribution of the areas according to their use and in such a way that they do not become obstructions for one another but rather have a perfect continuity and flow of spaces. Once the visitor approaches the main entry, they are without any confusion led through the exhibition halls, outdoor display areas, cafeteria, recreational area, etc. until the very exit of the park (Figs. 12, 14 and 15).

Fig. 10 : Zoning
(Source: Authors)

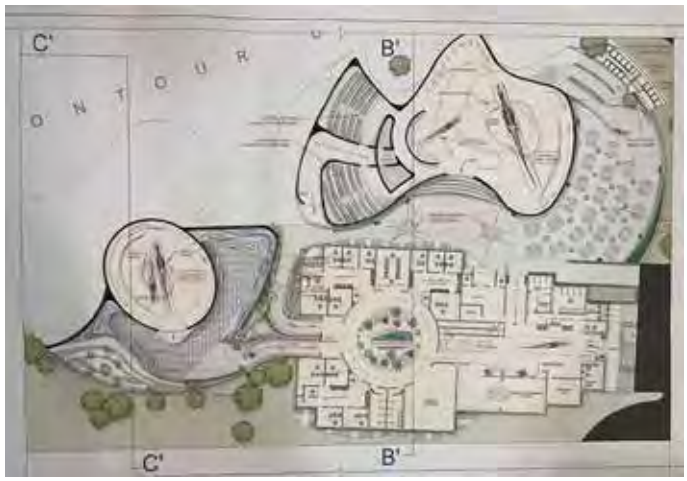


Fig. 11: Floor plan at 15m level
(Source: Authors)

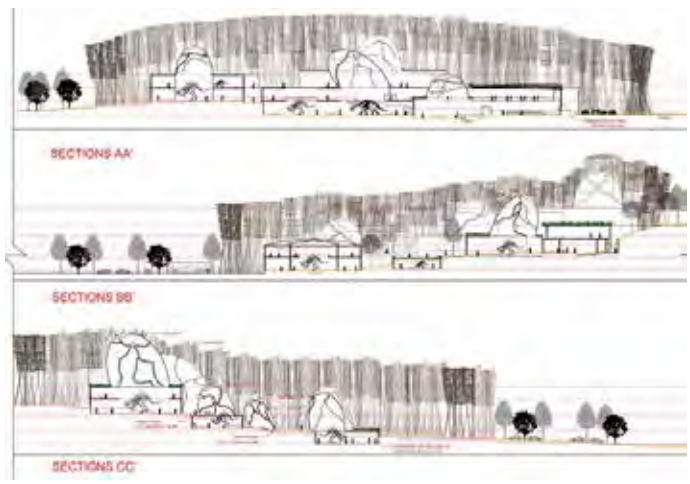


Fig. 12: Sectional views
(Source: Authors)

Fig. 13: Roof plan at 14m level *(Source: Authors)*

Fig. 14: Computer generated 3D image *(Source: Authors)*

Fig. 15: Models of the project (scale 1:500) *(Source: Authors)*

6. CONCLUSION

From a geo-tourism promotion perspective, the fossil forests have exceptional heritage and scientific values, as admired by UNESCO with their recognition under the Global Geo-Park Network. However, the fossils are fragile and very sensitive, even to the processes of weathering, for which special care is mandatory while promoting geotourism in fossil parks.

As it is learned from the requirements of the project and similar case studies, it was found to provide the proper foot print, approach, and planning of building blocks to utilise the natural light, pleasing landscape, and utility of space for a successful project. The vehicular and pedestrian movements are to be separated for safety and the free movement of both without interference.

On a conclusive note, the following points are to be observed while designing:

- Entrance to common areas should be on the subroads so as to maintain safety and security and also have easy accessibility.
- Each unit needs to be planned in such a way that it has proper light and ventilation.
- Well-designed areas for open spaces to cater to the need for a healthy environment are required.
- Museum on a large scale with clones of dinosaurs, skeletons, and leather-skinned animals of life size.

Combining or interlinking all areas as one unit or part of the same project

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TEN ON TEN

A Sensibly Sensitive Architectural Conversation with Ar. Chitra Vishwanath

Ar. Nandita

Architect Chitra Viswanath, Principal Architect, Founder, and MD, Biome

Architectural practices are diverse, but all aim to create functional, aesthetically pleasing, and sustainable spaces. Architects must consider factors such as topography, climate, and cultural context, as well as the needs of occupants and the surrounding community. They use tools and techniques like computer-aided design software and sustainable building practices to achieve these goals. In recent years, there has been a growing emphasis on designing buildings that are environmentally friendly and energy-efficient, leading to the development of new materials and technologies that can reduce a building's carbon footprint. As cities grow and evolve, architects will play a crucial role in shaping our built environment by creating innovative designs that enhance our quality of life while protecting the planet for future generations.

Architect Chitra Vishwanath, a Bengaluru-based architect, is well known for her passion for sustainable architecture and how she integrates ecology into her designs. She emphasises the importance of understanding the local environment and using suitable materials to create buildings that are both aesthetically pleasing and environmentally friendly. Chitra, via her firm Biome, has worked on various projects, including schools, community centres, institutions, and residential buildings, all of which incorporate ecological design principles.

As an architectural practice grows, it becomes a reflection of the architect's journey, struggles, and triumphs. It is a culmination of their hard work, dedication, and passion for their craft. The layers build up over time like a tapestry, each thread adding to the richness and complexity of the whole. It is in these layers that one can find the true essence of the practice—its strengths and weaknesses, its potential for growth and improvement. Through careful unwrapping and reflection, one can discover hidden gems of knowledge that can be applied to future projects. In this way, the practise becomes a living entity, constantly evolving and adapting to new challenges and opportunities. Ultimately, it is through this process of growth and self-discovery that one can achieve mastery in their chosen field. Through this interview, Nandita delves into conversations with Architect Chitra Vishwanath, unravelling many hitherto unknown aspects about herself and her Bengaluru-based practice Biome Environmental Solutions, a design firm that specialises in ecology, architecture, and water.

Chitra Vishwanath's journey as an architect is a testament to the power of innovation and creativity. Her firm, Biome Environmental Solutions, has made a name for itself by focusing on ecological design practices that prioritise the environment. Through her work, Chitra Vishwanath has demonstrated that it is possible to create beautiful, functional buildings that are also in harmony with nature. In this interview with Nandita, she shares her insights on everything from the importance of water conservation to the challenges of working in a rapidly changing urban landscape. What emerges is a portrait of an architect who is deeply committed to her craft and to making a positive impact on the world around her. As she continues to evolve and adapt to new challenges, there is no doubt that Ar. Chitra Vishwanath will remain at the forefront of sustainable design for years to come.

Residence for Capt. Verma; Architects: Sharath Nayak & Siddharth Achaya

In an interview titled ***"Ten on Ten: A Sensibly Sensitive Architectural Conversation,"*** *Ar. Chitra Vishwanath shares ten things about herself and her practice with Nandita.*

N: You have widely championed the cause of ecological architecture and the role of water and materials in your projects, among many other environmentally relevant factors. Help us trace out the beginnings of your journey when you founded Biome. What triggered this inquest? How did this path reveal itself to you?

CV: Thank you for asking such an important question. The path to this discovery was unexpectedly revealed. In 1991, the country embraced Capitalism, which brought about a significant transformation in how people managed their finances and envisioned their future. Bangalore emerged as a prominent IT hub, and the outskirts of the city saw the development of residential "layouts." Unfortunately, these layouts faced significant challenges such as inadequate water supply, a lack of wastewater treatment, and unreliable power sources. As a result, it became essential to integrate vital services into the design of a home to ensure its completeness. At the same time, we did not want our structures to be parasitic but positive inserts.

N: A different building vocabulary meant a different skill set for the construction workers. How do you find them and train them? How critical are they to your project's realisation?

CV: Let me clarify that using different terminologies does not require a distinct set of skills. The fundamental skill set required for masonry remains the same. It is not the masons who require training, but rather the supervising team, which should possess a basic understanding of masonry construction. Interestingly, this skill, which is expected from engineers, has proven to be more challenging for them than for the masons themselves.

At the start, I had the fortune of collaborating with a group of civil engineers who were acquiring knowledge through hands-on experience, much like myself. Together, we learned every facet of the job on the construction site and developed our expertise in comprehending material behaviour. As our firm expanded, we designated civil engineers as Quantity Surveyors (QS), enabling them to gain familiarity with both construction practices and interpreting design intentions. These engineers subsequently transitioned into contractors and have since worked for our firm, as well as numerous other architects.

Residence for Mohan and Anuradha; Architect: Anurag Tamhankar

N: In your architecture, the human-centred narrative excels. These lines are now being blurred by AI and technology. While some contend that technology has improved the efficiency of building design and construction, others are concerned about the potential loss of originality and the human touch. Which side of the narrative will you and your practice identify with moving forward, and why so?

CV: I have always had a strong desire to be able to project my designs onto a screen, similar to the magician Mandrake. In my view, AI is an inevitable part of our lives, and it's up to us how we utilise it. It should serve as a tool to alleviate mundane tasks, while also allowing us to discern its limitations. At present, I maintain a stoic attitude, observing AI's impact impartially. I believe AI will motivate us to acquire more knowledge, enabling us to assess outcomes based on the three Cs: Context, Cost, and Clients.

N: A linear path in practice is always a myth. As an architect, you have likely faced numerous challenges throughout your career. Whether it be tight deadlines, difficult clients, or complex projects, these obstacles have helped shape your learning and experience. Can you share some anecdotes about any particularly challenging projects that can provide us valuable insights and help us understand your struggles and success in this profession?

CV: Costs have consistently posed a challenge for us. Since our emphasis primarily lies on utilising local materials and earth in construction, there is a perception that the expenses will be lower compared to conventional methods. To address this, we have devised a matrix that effectively demonstrates to clients that walls and roofs do not significantly contribute to overall costs when compared to elements like windows and toilets. This approach has proven beneficial for persuading clients.

Office Interior of Gdroit; Architect: Sharath Nayak

Another obstacle we encounter is conveying to clients the notion that there is a higher labour cost associated with these types of constructions, which should be appropriately compensated. We continuously strive to engage clients in understanding the importance of allocating less expenditure towards materials and instead investing in future-proof and adaptable systems.

N: Over the years, your practice has fallen into a bracket of expression. A predictable syntax of what can be expected from a Biome project. How much of this is a boon or a bane?

CV: Your question is indeed thought-provoking. The difficulty lies in the lack of ability to distinguish between ecological considerations and the more commonly accepted ethnic or vernacular aesthetics. This challenge is not only prevalent among clients but also within our professional community. As experts in the field, our responsibility is to balance both ecological concerns and client satisfaction, which requires skillful navigation of this conflict. We make concerted efforts to find compromises that align with both ecological principles and the preferences of our clients. However, we greatly value instances where logical reasoning prevails over preconceived notions or subjective preferences.

In contrast to the previous question, allow me to share an anecdote. We encountered significant resistance from clients during a housing project in Coonoor when trying to convince them that constructing with complete concrete, rather than earth, was more suitable given the site context. The site had a steep slope and limited space for material storage. Nevertheless, we still implemented rainwater harvesting, ensured ample daylight in the buildings, and maintained a native landscape, despite the structures being entirely concrete.

N: These days, everyone is vocal about discussing two pertinent issues: gender and climate. In both cases, you have left your mark. Did you encounter any difficulty relating to discrimination and gender bias as a woman working in architecture? Your contribution to reducing the adverse effects of buildings on the environment would have been both gratifying and difficult. Could you describe the most rewarding aspect and the most difficult challenge you have faced as a 'woman' architect in combating climate change so far?

CV: Initially, at the beginning of my career, I didn't encounter many challenges in this regard. My solid understanding of civil construction, thanks to my Civil Engineering Diploma in Nigeria, played a significant role. Additionally, being part of a family of civil engineers through marriage meant that construction was frequently discussed during dinner conversations. However, interestingly, I have started noticing biases from time to time, even from young consultants. In a recent conversation, I had to assert my expertise to a structural consultant, reminding them that I had ten times more experience than the male colleague they were referring to when discussing structural intricacies. On the other hand, there are numerous rewarding aspects to our profession, particularly when we can address specific gender requirements. I strongly believe that architecture is a comprehensive discipline where differences are eliminated, as we strive to create habitable spaces that consider all aspects and everyone's needs.

Project at Coonoor

Residence for Capt. Verma; Architects: Sharath Nayak and Siddharth Achaya

Promise Centre: Pre-Biome Days

It is inspiring to witness the emergence of assertive women architects who are actively breaking barriers and challenging norms. Their presence is undoubtedly transforming the landscape of architecture and society. A remarkable example is my friend, Poonam Jolly, who not only designs but also serves as a conventional contractor. She is currently rectifying significant flaws in a home that was built at a considerable cost by a maverick male architect. In addition, she is writing a captivating book that delves into her experiences and dreams. These endeavours are symbolic of the glass ceilings we should aspire to shatter. Although it may not be an easy journey, it is undeniably enjoyable and fulfilling.

Climate change is a pressing issue that does not discriminate based on gender; it affects everyone. However, it is disheartening to observe a lower representation of women in the workforce at construction sites. This is particularly concerning considering the decline in agricultural income as well. As entrepreneurs, it is crucial for us to actively listen to the stories and challenges faced by the women working alongside us and develop systems that support them.

One of our current involvements is collaborating with the BMTC (Bangalore Metropolitan Transport Corporation) to design restrooms specifically for their female staff. This project provides an intriguing opportunity to create a space that ensures privacy while also fostering confidence and relaxation for the women utilising the facilities. It is a valuable experience that encourages us to consider the needs and well-being of women in all aspects of design and construction.

N: As a senior member of the Indian architecture fraternity, you hold a disposition and status quo where your point of view and opinions are valued. You have spoken at various forums and conferences and are the coordinator of in:ch, an Indo-Swiss sustainability education initiative. You have also been involved as an advisor to Kilikili. Share with us your journey and how you have strived to make positive contributions to the building sector and humanity at large through these initiatives.

CV: IN:CH was conceived by Prof. Juerg Grunder from Bern as an innovative initiative. He was a faculty member at Berner Fachhochschule (Bern School of Architecture, Wood, and Civil Engineering). The objective was to bring together students from diverse global backgrounds, fostering a community of creative thinkers who could collaborate on a global scale in the field of design. Our involvement, as part of Biome, focused on overseeing the Bangalore segment of this journey. We specifically concentrated on ecological issues, addressing the challenges faced by the rapidly growing city. This experience provided me with a unique framework for approaching design, exposing me to aspects that may not typically arise in real-life projects. It also served as the catalyst for subsequent workshops such as Arhchiprix 2017 and the Monsoon studios, including "Retrofitting an Environment" at CEPT in 2020 and 2021.

Working with Kilikili presented a distinct experience in navigating bureaucracy and driving a shift in thinking. Ms. Kavitha Krishnamoorthy, the founder of the organisation, was a true inspiration. My contribution was incorporating design thinking within the Indian context. It is gratifying to witness that play is now being taken seriously, alongside the integration of universal design principles.

In a similar vein, I developed an online short course in 2020 with Ethos, focusing on designing neighbourhood parks. This allowed me to share my expertise and knowledge in a convenient online format.

Presently, I see myself as a collaborator, further developing ideas within projects where I am not necessarily the initiator. I appreciate this facet of my work. Engaging in architectural design leaves me with limited time to initiate new projects, but I am always ready to lend a helping hand or be an attentive listener. Additionally, I serve as a trustee for Udaantaa, an initiative dedicated to the process of transforming indigenous Brown Cotton from land to loom in an ecological manner. Sushma Veerappa and Ravi Kiran are the driving forces behind this initiative, creating wonderful opportunities for sustainable cotton cultivation.

N: Developing a deeper understanding of the local environment and culture through collaboration with local communities and experts can help make architecture more sustainable and meaningful. What are your opinions on regional collaborations and co-learning that have influenced your projects in an increasingly globalised world? Will Biome expand outside of its local region and construct in other nations as well in the future?

Residence for Gita Nirody: Pre-Biome Days

Office Interior of Gdroit; Architect: Sharath Nayak

CV: Acknowledging and comprehending the local context is an indispensable aspect of effective architectural practice, and collaboration plays a vital role in achieving this objective. At Biome, we firmly believe in sharing our experience as outsiders to foster another way of approaching the issue at hand. However, this must be done in close partnership with the community, ensuring that we work with a deep understanding of their resilience and specific requirements. Govardhan Eco Village has become a hub where our design interactions have facilitated the development of a knowledge base that actively promotes the construction of earthen buildings within the local area.

Our influence extends beyond the borders of India through the involvement of our interns and colleagues. Our interns have participated in earth-based practices in countries like Uganda, Egypt, and France. Additionally, a highly regarded former colleague, Ana Antunes, specialises in constructing Compressed Stabilised Earth Blocks (CSEB) and provides consultations on rainwater harvesting in Porto, Portugal. Moreover, we have designed a hostel in Nigeria.

While physical projects are undeniably fascinating and necessary, the training and collaborative work we undertake in Bangalore serves as inspiration for others to embark on their own distinctive paths.

N: No one is spared from the stress and pressure of work, especially in an urban environment. Today, concerns about mental health and overall well-being are at the forefront. How do your projects respond to this, and how do you relate to this in your personal life?

CV: We advocate for minimal construction and prioritise preserving ample space for biodiversity. I hold a strong belief in the essential role of sunlight, fresh air, and nature in promoting our well-being.

N: Looking back, what would you like to tell your younger self now, especially during your college and formative years?

CV: I really do not know or think much about it.

N: From creativity on-site, you have moved on to creativity in a book. Tell us more about "Biome Diaries," which is a set of pocket-friendly publications about the people, projects, and processes at Biome Environmental Solutions.

CV: Biome Diary is a work in progress; we have just begun with the present offering. Our intention with this book is to emphasise the significance of collaboration and how diverse voices contribute to shaping our ecosystem.

The interview provides valuable insights into Chitra's approach to architecture and her commitment to creating a more sustainable future through design. Chitra's experience working on various projects has been nothing short of impressive. From schools to residential buildings, she has incorporated sustainable design principles into all her work. Despite all the challenges, Chitra remains committed to her vision of creating a more sustainable future through design. Her work has had a positive impact on the community, and she continues to push for change in the industry. Chitra's approach to architecture is refreshing and inspiring, and her dedication to sustainability is admirable. As the world becomes more aware of the importance of sustainable design, Chitra's expertise will undoubtedly remain a driving force to learn from.

Biome Environmental Solutions is a Bangalore-based design firm focused on ecology, architecture, and water. The office's diverse team includes designers, architects, civil and mechanical engineers, and urban planners from various parts of India and abroad. The designs are undertaken by various members of this team in constant collaboration with each other via group discussions, exchanges, and periodic meetings. - https://www.biome-solutions.com/

Photo Credits: **Dr. Vivek Muthuramlingam**

Nandita, Founding Director of WEVID [Weaving Enquiries in Design], a Design Edge initiative, has engaged with the realm of Architecture and Design as an Architect, Academician, Architectural Journalist, and Author for over two decades. She is also currently the Global Lead of the Green Building Learning Program at the International Finance Corporation (IFC), a member of the World Bank Group.
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RUNNING A DESIGN BUSINESS

Ar. Tanya Khanna

In India, traditionally, architecture and design practises have shied away from communication activities, persisting instead in reclusive brilliance. However, in today's globalised markets, creating opportunities for design as a business and facilitating it becomes crucial. In the current scenario of information overload, originality and creativity simply get lost in the deluge of data produced globally. As architects, graphic designers, product designers, or even artists, most often, one believes that "my work speaks for itself", and often only relies on portfolios. While image is probably the most vital component for the success of a design business, stuck in the everyday rut of work, meetings, deadlines, and ensuring the delivery of good design, we often do not tap into our strengths, showcase them, and leverage them on the path to growth. By putting India's design talent on the global map, worldwide opportunities can be created for deserving practises by equipping ourselves with competitive tools. Here are a few quick goals to keep in mind:

Gap between Design and Practice

The biggest barrier to success for design firms is rarely creativity; securing visibility for good work greatly helps in fostering public appreciation and effectively leads to the growth of the firm. It is imperative that design be communicated in a manner that is better understood and perceived, for it to genuinely make an impact. For any practise, there must be a genuine intent for discourse, dialogue, and the exchange of design ideas, which eventually form the missing pieces of the practise puzzle.

Global Phenomenon within a Local context

Globally, strategic communication practises are quite common. To keep pace with rapidly changing practises and be at par with the new values of the global economy, it is important to step back and innovate. While good design speaks for itself, it also needs a voice and an appropriate platform. The value of communications activity in this industry stems from the need for curated content that cannot only position the brand but also help in outreach. The brand narrative and the story-telling are, of course, the non-negotiable aspects of content. By focusing on content and its dissemination, there is a huge opportunity to bring India's design talent to the global forefront and young talent to the vanguard, and to change the notion of Indian designers shying away. By engaging with academia, the steps have bridged the gap between design as an industry and design education as well. As they say, 'the clients' victories are the biggest testimonials—when they win national and international awards, we know we have been successful.'

Eat, love, pray and most importantly Live - Design

Life today, no matter what juncture or domain we are in, allows us more exposure than our parents' generations, opening up a multitude of opportunities. In order to do good design, one must continuously expose themselves to it. Designers offer solace by working in a bubble, but discourse, engagement, and opening oneself to the limitless possibilities of design are what change the game.

Never stop learning.

Entrepreneurs should not become egoistical with success; stay grounded and willing to learn. In order to stay relevant and continue to add value, never stop learning. The market is always changing, and to believe that one has perfected it all simply through indicators of monetary success would be the biggest deterrent to growth. On a more spiritual note, honesty and a focus on quality are what bring trust from clients and more work. A good word always goes a long way.

Indian architect and curator **Tanya Khanna** is the founder of Epistle, the first and largest communications consultancy for architects and designers in South Asia. Through her work with more than 100 leading practitioners, design brands, and events over the past 16 years, she has committed herself to democratising architecture—giving a voice to design and to all those who practise, influence, or experience it.
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FELIX CANDELA
THE PROLIFIC SHELL BUILDER

Ar. Swati Chokshi

Felix Candela
(27 January 1910 -
7 December 1997)
(Source: https://architectuul.com/architect/felix-candela)

Fig. 1: Los Manantiales Restaurant, Mexico
(Source: https://www.archdaily.com/496202/ad-classics-los-manantiales-felix-candela/53461fadc07a80f94d00009f-ad-classics-los-manantiales-felix-candela-photo)

Felix Candela is the name is synonymous with futuristic creations of a variety of typologies of thin concrete shells way back in the twentieth century. Felix Candela was born in Spain, Madrid. As Ove Arup observed in 1962, he belonged to the rare breed of multidisciplinary professionals who were architect, engineer and contractor all rolled into one (Faber, 1963, p. 7). It was this expertise that allowed Candela to design and build in the audacious way he did.

Life

Felix Candela qualified as an architect from the Madrid Superior Technical School of Architecture in 1935. Soon after, he joined the Republican Army where he served as Captain of Engineers until 1939. When the Spanish Civil War ended, he was exiled from Spain and moved to Mexico (Columbia University, n.d.). He started his practice in Mexico and he designed and actually built the signature shell structures that got him much global acclaim through the 1950s and 1960s. His firm was called *Cubiertas Ala* (translated as 'Roof Wings'). He was honoured with the *Auguste Perret Prize* in 1961 (ArchDaily 2008-2023, n.d.). He was also awarded a Gold Medal in 1961 from the Institute of Structural Engineers. In 1971, Candela immigrated to the United States and started his illustrious career focusing on architecture and also as a faculty at the School of Architecture, University of Illinois (Columbia University, n.d.).

The Socio-Political influences and his Philosophy

Concrete as a material offers immense possibilities. It is especially well suited to the design and construction of shells. Theoretically, the perfect shell should only have axial and shear in-plane forces. This surface transfer of forces allows shell structures to have a slenderness ratio of 1:500 or more. In the times of war, this concrete precast and cast in-situ shells allowed cheap and speedy construction without the use of metal and steel which were scarce materials, more required on the war front (Tang, 2012, p. 3).

As an architecture student, what intrigued Candela the most was how a structure could be calculated to prevent its collapse (Faber, 1963, p. 11). In fact, he also served as assistant to one of his professors. He started his career by coaching other students and doing calculations for fellow professionals. He was also hired purely to work as a contractor and actually build structures. If asked to describe himself, he was wont to say: 'I am a contractor, working at something I really like to do, which is a very happy situation.' (ibid. 10).

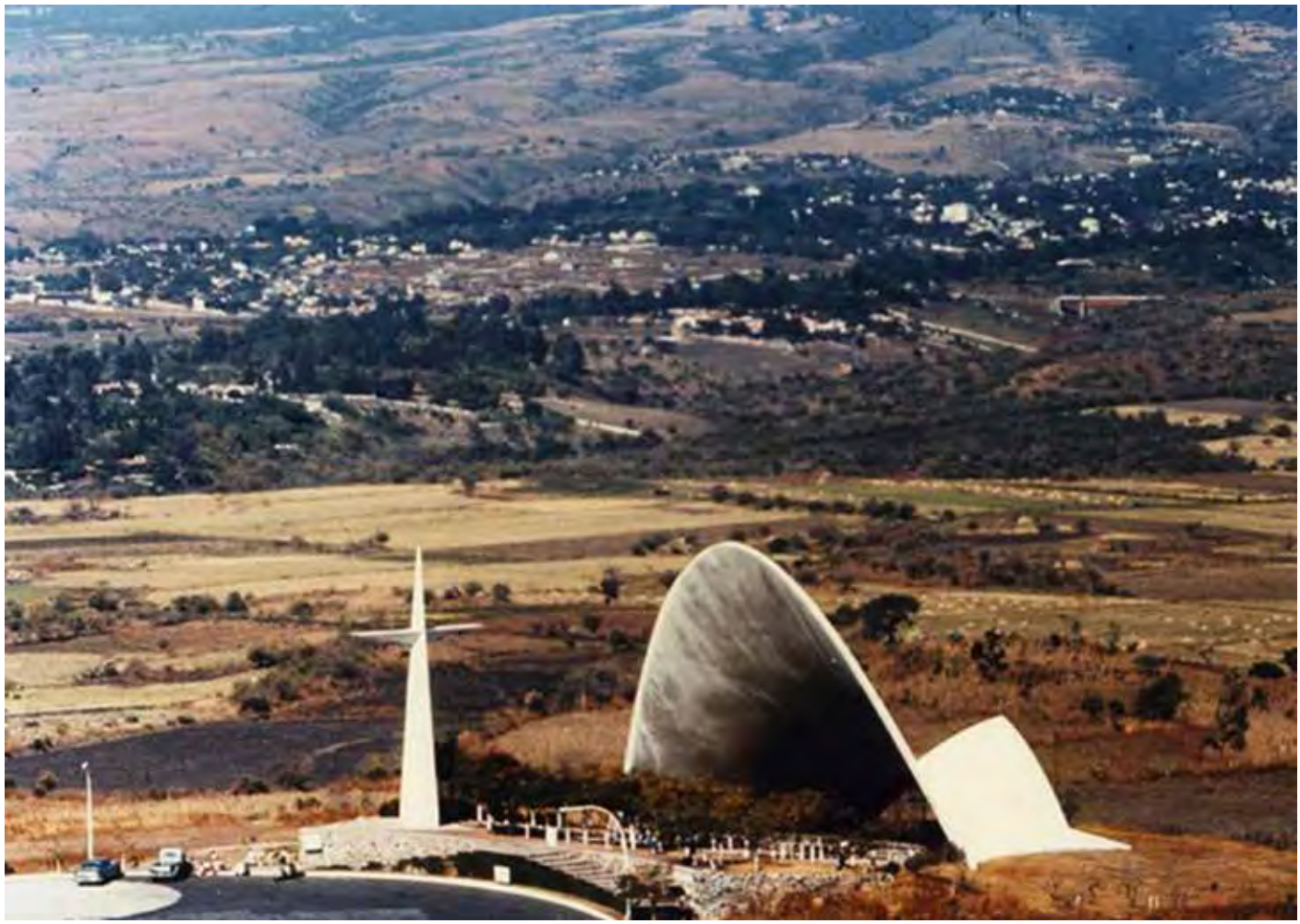

Fig. 2: Chapel Lomas de Cuernavaca, Mexico
(Source: https://architectuul.com/architecture/chapel-lomas-de-cuernavaca)

He had contemporaries like Heinz Isler (who was known for his form-finding quests through physical models to find a form where forces are purely shear in-plane and axial) and a predecessor in P. L. Nervi who had a significant body of built work of concrete shells, a combination of pre-cast and cast in-situ elements driven by speed and an economy of materials in the war-torn times.

Candela's buildings were structurally honest, fluid and beautiful. Challenges in construction and structural analysis did exist. He used doubly curved geometries like hyperbolic parabolas, conoids, hyperboloids, cylinders and cones which allowed formwork to be constructed economically using straight timber boards only (Tang, 2012, p. 6). He economized further by designing them to use a minimum quantity of material through his manual structural analysis.

Any new structural idea in his office, had small chance of winning his approval unless it was both easy to calculate and easy to build. His insistence on these two criteria made it much harder to design something original (Faber, 1963, p. 9). The majority of concrete or masonry shells were built between 1925-1975 by architects or engineers like Eduardo Torroja, Robert Maillart, Felix Candela and P.L. Nervi. After their deaths, shell-building lost popularity. Various other inhibiting factors like the complexity of structural analysis, cost and skill sets required to build complex formworks, the spatial restrictions on the interior spaces created within and many more also affected the decline of the concrete shell.

Candela was impacted badly as it is evident from his honest quote during a lecture at The Universidad Nacional Autonoma de Mexico in 1969: 'As a matter of fact, I am as lost and disorientated as you are. I am around 60 years old and 20 of them I spent as contractor and designer of structures. I know the trade of the traditional architect reasonably well and I neither find market nor use for some capabilities that cost me so much to achieve. I am out of place in today's world and I do not know what to do nor if I am worth anything.' (Tang, 2012, p. 5).

Works

He started his early experimentation on shells with the Pabellón de Rayos Cósmicos, or Cosmic Rays Pavilion. This was his first major structure utilizing his unique hyperbolic paraboloid geometry. It had to be thin enough to allow

Fig. 3: Bacardí Rum Factory, Mexico
(Source: https://architectuul.com/architecture/bacardi-factory)

the penetration of cosmic rays into the labs and the shell was as thin as 4 cm (Faber, 1963, p. 30). His self-identified favorites are the Los Manantiales Restaurant, Chapel Lomas de Cuernavaca, the Bacardí Rum Factory and the Church of Our Lady of the Miraculous Medal. His last project, The Valencia Oceanographic Park, Spain, was built after his death in 1997 (Columbia University, n.d.).

As Ove Arup puts it, Candela's work is an example of how complete mastery of one mind of all the facts affecting a design can produce that balanced perfection which makes a structure a work of art (Faber, 1963, p. 7). Candela's creations continue to inspire many even today.

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ZYDUS CORPORATE PARK

Technology and tradition come together to redefine the office building archetype at Zydus Corporate Park.

Ar. Manit Rastogi & Ar. Sonali Rastogi

Doubly-curved corten steel bulwarks are articulated in the intricate geometries of Ahmedabad's traditional Kansara metal craft.

Fact File

Project Name	▶ Zydus Headquarters
Typology	▶ Offices
Location	▶ Ahmedabad
Completion date	▶ August 2022
Client	▶ Zydus Cadila Group
Built-up Area	▶ 8,40,000 Sq.Ft
Site area	▶ 6.4 Acres
Climate	▶ Composite
Consultants	● Structure: Sterling ● MEP: Sanelac ● HVAC: Sanelac ● Plumbing: Sanelac ● Electrical: Sanelac ● Landscape Design: Morphogenesis ● Fire Fighting: Sanelac ● Environmental Design: SGS ● Façade: Meinhardt Façade Technology ● Green consultant: SGS India ● Lighting: Vis à Vis ● AV: KLM Design ● Traffic: Transfic ● Hospitality Consultants India (HCIPL)
Civil Contractor	▶ PSP Projects
Photographer	▶ Noughts & Crosses LLP
Team of Architects	▶ Neelu Dhar, John Alok De Cruz, Aakansha Aggarwal, and Munazza Akhtar

Envisioned as a resilient 21st-century workplace that borrows from Gujarat's vibrant architectural and cultural heritage, the head office of Zydus, located along a busy highway in suburban Ahmedabad, sensitively responds to the region's extreme hot and dry climate.

A robust monolith with a peaked profile, the building's fortress-like form references mediaeval-era monuments from the walled city of Ahmedabad: the Bhadra Fort, the Pavagadh Fort, the stepped courts of Adalaj, as well as the traditional 'Bhunga' architecture of Kutch. The Pavagadh Fort provided key contextual cues for the three rampart-like walls forming the western facade that effectively screen the interiors from the harsh summer sun and provide a thermal buffer against extreme temperatures. These doubly-curved Corten steel bulwarks (14,200 data points) are articulated in the intricate geometries of Ahmedabad's traditional metal craft of the 'Kansaras', translated parametrically through computational design. The triangular glass tubes embedded within the walls are inspired by mirror work on 'Bhungas', vernacular Kutch dwellings venerated for their architectural resilience and ornamentation. The tubes are finished in dichroic film, catching the sun's movement through the day and rendering the facade with a perpetually kaleidoscopic dynamism.

Spanning east to west, the walls shield and create an oasis for the north-south oriented office towers that abut their edge. The towers are spaced apart to shade the stepped courtyards between them, thereby generating a suitable microclimate to encourage outdoor recreation and engagement. The column-free work halls are completely glare-free, 100% day-lit, and blind-free, thereby eliminating the need for artificial lighting during the day. The use of passive design and climate-responsive strategies contributes to a significantly reduced Energy Performance Index (EPI) of 56 kWh/sq. m./yr, and the building consumes up to 50% less energy than stipulated by the best green building standards.

In addition to functioning as an environmental shield, the building's walls house the entire social incubation space for the two thousand-strong workforce. Circulation areas between the walls that run along the length of the site consist of breakout spaces, alcove seating, bistros, employee engagement zones, visitors' lounges, and booths for brainstorming sessions and informal meetings. This spine connects all the formal work areas in a vertebral configuration. In today's context, this zone also doubles up as a social distancing space to spread out the workforce.

A spine connects all the formal work areas in a vertebral configuration and doubles up as a social distancing space to spread out the workforce.

Spanning east to west, the walls shield and create an oasis for the north-south oriented office towers that abut their edge.

Circulation areas consist of breakout spaces and engagement zones for brainstorming sessions and informal meetings.

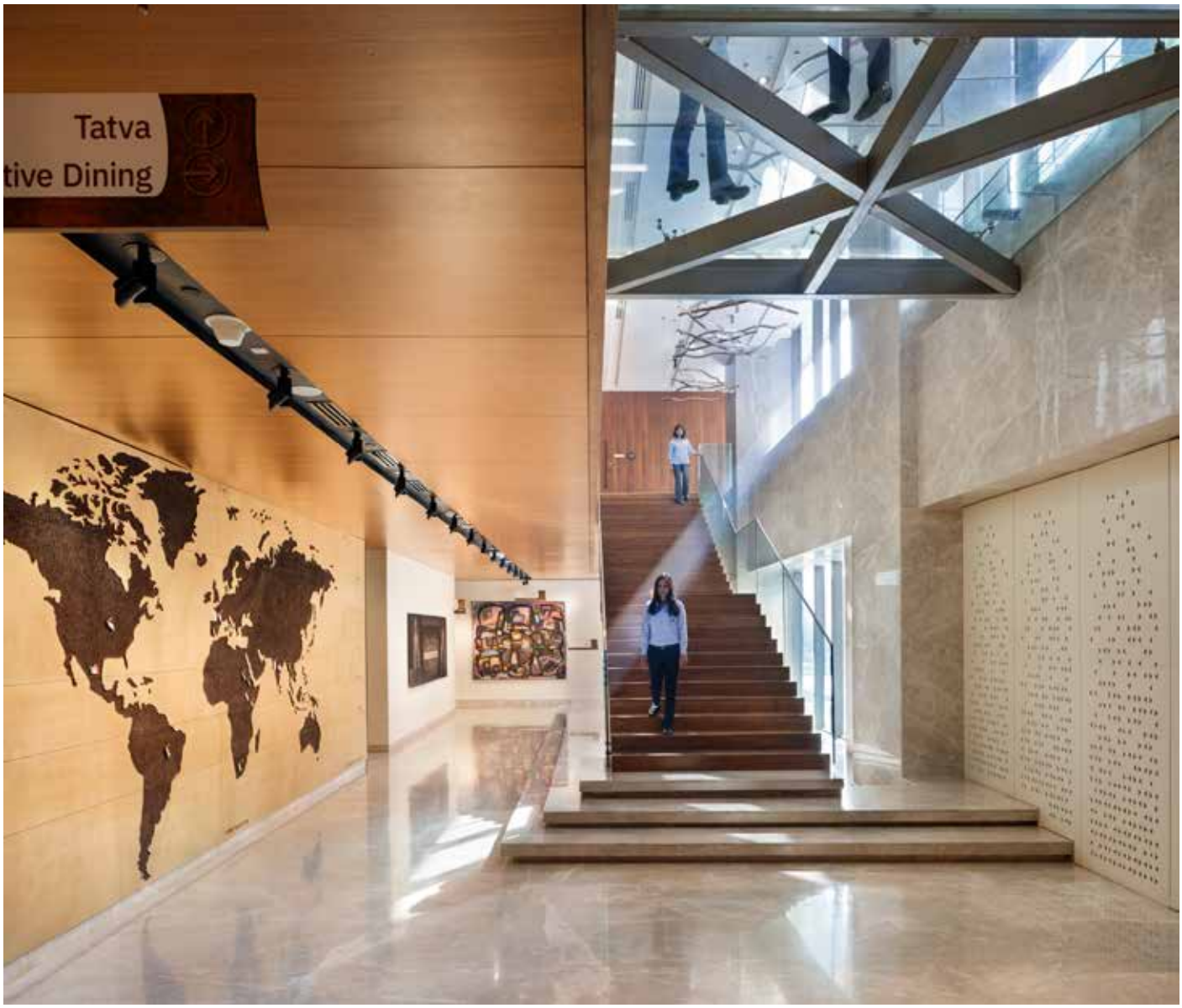
The planes of architecture and landform seamlessly converge and diverge to create a unique land modulation.

The three rampart-like walls screen the interiors from the harsh summer sun and provide a thermal buffer against extreme temperatures.

The towers are spaced apart to shade the stepped courtyards between them, generating a suitable microclimate to encourage outdoor engagement.

Triangular glass tubes embedded within the walls are inspired by the Bhunga mirror work on the surface of vernacular Kutch dwellings.

Work halls are completely glare-free, 100% day-lit, and blind-free, thereby eliminating the need for artificial lighting during the day.



The use of passive design and climate-responsive strategies creates a building that consumes 50% less energy than a conventional green building.

The planes of architecture and landform seamlessly converge and diverge to create a unique land modulation. This is further layered in detail and materiality by incorporating the five elements found in nature. The primary architectural challenge was to marry the age-old knowledge of craftspeople who build by hand, with the precision required in the geometry of the walls. The surface treatment, in addition, incorporates local crafts and construction methods such as in-situ terrazzo flooring, mould-cast cementitious pigmented tiles, hand-turned metal furniture, and installations.

The project exemplifies the ideology of equity and transparency in the workplace as an integral part of its architectural vocabulary. Reimagining Gujarat's rich crafts traditions in a contemporary idiom and through its focus on simple passive design and efficient building principles, the building aspires to be an exemplar of globally and locally relevant commercial architecture.

Manit Rastogi is the founding partner of Morphogenesis. His work spans a diverse canvas ranging from architecture to urban design, including smart cities, residential complexes, institutions, offices, and hotels across India, Bhutan, South Africa, Bangladesh, Sri Lanka, and Afghanistan. As a founding member of the GRIHA Council, Manit has worked with urban policymakers to spearhead initiatives emphasising environmental sustainability and social welfare.
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MANZIL-E-HINDUSTAN CULTURAL CENTRE HYDERABAD

Ar. Srinivas Murthy G.

Munajaat meri tu sun Ya Sami
Mirjé khush tu rakh raat din Ya Sami
Méra shahr lögön ööä mamäär kar
Rakhya jun tu darya main man Ya Sami

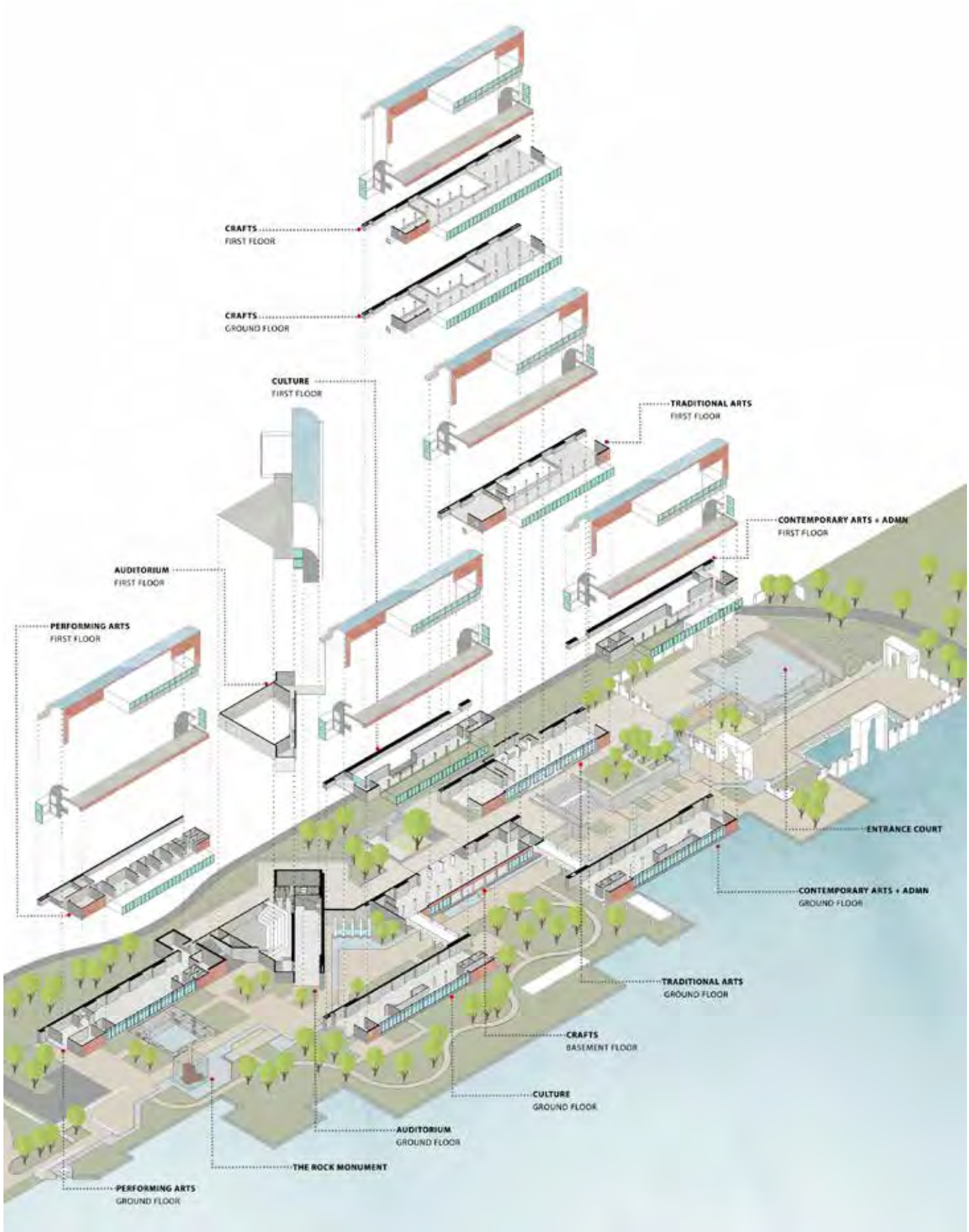
In 1589, the fifth Qutb Shahi King and founder of Hyderabad, **Mohammed Quli Qutb Shah**, a poet of repute, at the time of laying the foundation of 'Farkhunda Buniyad' (prosperous city in Persian) wrote this couplet- a Munajaat to the Almighty seeking blessing and success to the venture!

Oh God! fill up my city with people just as you have filled the river with fish!!

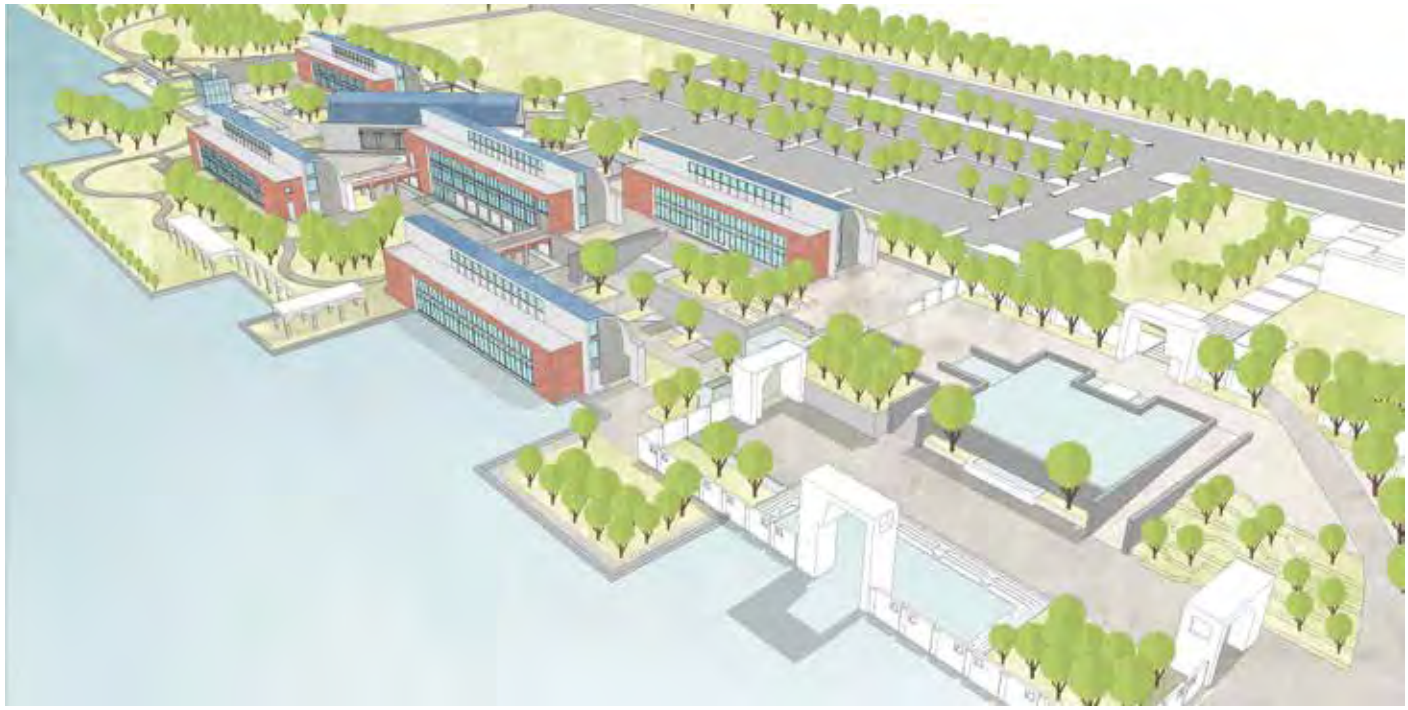
Fact File

Project Title	: Manzil-e-Hindustan
Location	: Durgam Cheruvu, Hyderabad
Year	: 2019
Competition	: UNI Bharat Bhavan 2.0
Award	: Critics Choice Award
Site Area	: 19,789 Sq.Mts. (4.89 acres)
B.U.A.	: 6540 sq.m.
Sources of the images	: SMG Design Inc.

Site Plan



Exploded view of the entire complex



A perspective view of the proposed centre for Deccan arts and culture

The Context

First propositioned by the Government of India in the early 1970s, each of the then 21 Indian States (1970) were to set up an 'India House' or 'Bharat Bhavan' in an effort to patronise and promote the local arts and culture that formed the core of India's identity and character. Under this scheme, the Bharat Bhavan in Bhopal, designed by Charles Correa, was the first and only such cultural centre to have been built under this scheme back then. The competition brief explored this very theme and invited architects and students to submit ideas and interpretations for a 21st century Bharat Bhavan—a centre for the arts in today's growing and contemporary context. The participants were also allowed to work on a site of their choice.

The Concept

The Full Circle

Historically speaking, the present-day city of Hyderabad evolved as an extension of the fort city of Golkonda and is reflective of influences from Persian architecture and the contemporary ethos of a growing nation. With its central location as a meeting point of people, cultures, trade, geographies, and climatic conditions, Hyderabad is a unique city in many ways!

Rich and lush with a landscape of lakes, rivers, and hilly terrain with unique rock formations, the city offers a creative challenge from an architectural design perspective and is thus an ideal choice for locating the new-age Bharat Bhavan. And now, the city of Hyderabad has come full circle. With the present centre of growth and development being focused in the western part of the city, wherein is located the Majestic Golkonda Fort, the birthplace of this historic city, Hyderabad has become one of the fastest-growing metropolitan cities in the country. The majority of the new-age work places in the IT and ES industry, financial and academic institutions, major healthcare providers, and commercial and recreational facilities are located in this region of the city, which is now popularly called "Cyberabad," continuing the nomenclature from Hyderabad and Secunderabad, which are the other two older counterparts in the city. Technically, being the newer part of the city, the population here is cosmopolitan, quite unlike in the eastern and northern quarters of the city.

The Site

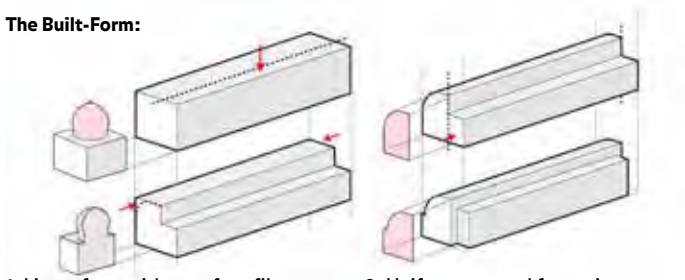
The site chosen for the project is on the western edge of an 83 Acres (33.5 ha) freshwater lake, the Durgam Cheruvu, located in the western corridor of the city, close to the Golkonda and near the Hi-Tech City area of the city.

Durgam Cheruvu, [Durgam, meaning difficult to access, and Cheruvu, in Telugu, meaning a lake], one of the many natural lakes in the city, nestled between rocky hills, is centrally located and has witnessed the rapid urban expansion and changing topography of the region. With the soon-to-be-completed suspension bridge over it that will provide seamless connectivity to this hyper-active part of the new city, Durgam Cheruvu will once again come into prominence.

The site was chosen for its centrality and for the simple but sensitive concern that the lakes and rock formations of the city need to be preserved and protected, and a centre amidst them would become a meeting point for people and ideas.

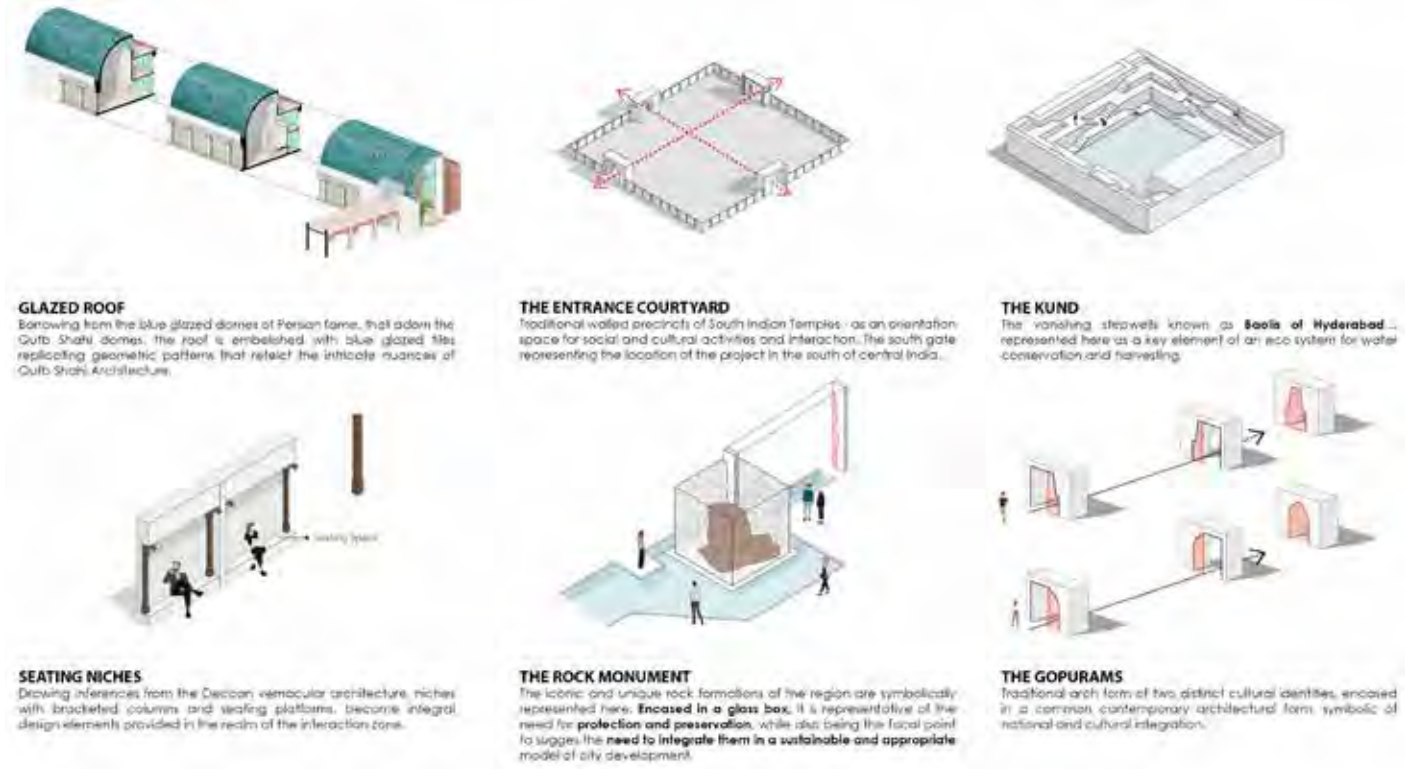
An understanding of the history, literature, and performing arts, social and cultural traditions, craft and architectural heritage, and environmental concerns give people their

The Built-Form:



1. Linear form with a roof profile inspired by the domes of Qutb Shahi Tombs with terraces towards the lake.

2. Uniform external formation with divergent internal spatial organisation based on block-wise functional requirements



View of the individual blocks interconnected corridors overlooking the courtyards.

identity. And this very concept of identity—relating oneself to one's own surroundings in totality—formulates itself into an association and then a concern for all those elements that create the bonding.

The master plan proposal for the lakefront development into a major public recreational place includes a boating club, landscaped gardens, and food courts as project components and proposes to be the anchor project for all future developments around the lake.

The Design

The entire building is divided into six interconnected blocks, housing contemporary arts, traditional arts, crafts, culture, and performing arts sections, and an auditorium with a 500-seat capacity. The linear arrangement of the building blocks along a central axis is the primary concept adopted in the master planning of the project. To accommodate the contours sloping towards the lake, the site has been divided into two main levels.

The entrance to the cultural complex is through gopurams [temple entrance gateways], one on each side of the Entrance Square Court. The east-west-oriented gateways have a gopuram-shaped arched opening, while the north-south-oriented ones have a point-arched opening.

A detailed section of the tribal arts and crafts gallery

The Southern Gopuram leads into the entire complex through a central spine that leads the visitor to the focal point of "The Rock Monument". The main pathways are complemented and sometimes intersected with a stream of water that has been modelled around the Musi River in its plan form.

All blocks are interconnected with corridors, some at ground level, some elevated, and some even at sub-ground level, open into courtyards, which provide natural light and ventilation.

The Built-Form

The built form is predominantly linear, with a roof profile that is inspired by the domes of Qutb Shahi Tombs and terraces of the Golkonda Fort, all overlooking the site.

All the building blocks have a uniform external formation with divergent internal spatial organisation as per the varying functional requirements of each block. The entire mass of two-story buildings has a half-curved roof on one side, with the other half being a regular flat roof formation with terraces overlooking the lake.

The curved roof can be seen through many double- and triple-height spaces that function as display spaces with varying volumetric formation, thus creating an interesting spatial experience for the visitor. All the curved roofs are covered with glazed ceramic tiles, laid in intricate geometric and floral patterns typical of Persian style architecture, as a symbolic gesture remembering the founders of the city. The external finish of the building blocks is a hand plastered surface with a white lime paste finish, in combination with red sand stone application on the external wall facade.

Srinivas Murthy G. is an urbanist and an academician. He is an alumnus of the School of Planning and Architecture, New Delhi (1991). His practise, SMG Design Inc. in Hyderabad, undertakes master planning and urban design projects across the world in hospitality, institutional, educational, healthcare services, eco-tourism, and museum complexes. He has served on the board of the Association of Architecture Organisations, Chicago, USA, as the founding board member since its inception in 2009. He is also the Founding President of the Architecture and Design Foundation [India]. smg@smg.co.in

HOTEL IN BODH GAYA

Designed to serve tourists in the holiest city for Buddhists, the Hotel in Bodh Gaya Uses the Power of Memory and Emotion to Create Immersive Architecture That Embodies the Tenets of Buddhism.

Ar. Roshni Kshirsagar, Ar. Shimul Javeri Kadri & Ar. Vaishali Mangalvedhekar

Designed to serve tourists in the holiest city for Buddhists, the hotel in Bodh Gaya uses the power of memory and emotion to create immersive architecture that embodies the tenets of Buddhism.

Fact File

Project	▶ Hotel at Bodhgaya
Location	▶ Bodh Gaya, Bihar
Client	▶ M/s. Marasa Hospitality Pvt. Ltd.
Design Team	▶ Shimul Javeri Kadri, Vaishali Mangalvedhekar, Roshni Kshirsagar, Ipsita Mallick, and Aparna Kale
Area	▶ 76,000 sq.ft. on 4.5 Acre land.
Project Completion Year	▶ January 2020
Structural Consultants	▶ M/s. Engineering Creations Consultancy (I) Pvt. Ltd.
MEP Consultants	▶ M/s. AEON Integrated Building Design Consultants LLP
Landscape Consultants	▶ M/s. IPDM Services (India) Pvt. Ltd.
Lighting Consultants	▶ M/s. KSA Architectural Lighting Designers
Graphic Designers and Signage	▶ M/s. Tarasha Design Works
PMC	▶ M/s Masters
Civil Contractor	▶ M/s. Shree Om
Interior Contractor	▶ M/s. Interex

Bodh Gaya, where Lord Buddha is deemed to have received enlightenment, is one of the holiest and oldest pilgrimage sites for Buddhists. Hundreds of thousands of pilgrims and tourists from around the globe visit the city annually.

Spread over 5 acres, not far from the Mahabodhi Temple (one of the four holy sites related to the life of Lord Buddha), the Hotel in Bodh Gaya responds to the religious tourism in the region by being designed as an ode to the historical roots of Buddhism in India.

The 78-key hotel consists of two key zones: the public block closer to the northern access road and the guest block on the site's southern end. All vehicular movement is restricted to the site periphery. The public block has spaces arranged around a long, central courtyard, which forms the physical and emotional heart of the hotel. This zone comprises a reception, banqueting facilities, a health centre with a spa, a gym, a swimming pool, and a restaurant. A linear waterbody oriented east-west separates this public zone from the residential block, which comprises guest rooms and suites.

Invoking Memory and Emotion

Each space in the hotel represents the tenets of Buddhism through two key architectural lyrics – memory and emotion.

The landscaping of exterior spaces, including the linear, river-like water body with floating lotus plants (associated with the purity of body, speech, and mind in Buddhism), gives rise to calmness and tranquillity. Edged by *ghat*-like steps (ceremonial stairway to a river), the water body allows visitors to rest and rejuvenate in the outdoors.

A linear waterbody oriented east-west separates this public zone from the residential block, which comprises guest rooms and suites.

The first one, memory, is invoked through traditional features of Buddhist architecture. Vaults, corbelled arches, and stepped jambs are re-envisioned in a contemporary idiom across all spaces in the hotel, reminiscent of the past but designed for the present.

The other architectural lyric of emotion conveys the Buddhist ethos of simplicity, compassion, and serenity through a series of gestures.

In that spirit, a series of layers from outside to inside in the form of outdoor, semi-outdoor, and indoor spaces allow for a gentle transition into the public spaces as one enters the public block.

Portals are formed at the edges of these transitional spaces. Viewing spaces through these frames is like viewing the passage of life and its different phases. A banyan tree, the same tree species under which the Buddha is said to have received enlightenment, sits at the other end of the central courtyard, which is seen through these frames, signifying Buddhism's ultimate goal of enlightenment.

The building embraces the human scale, which is conveyed through the proportions of the courtyards, verandahs, arches, and windows. The soothing colour palette of muted whites and warm terracotta further lends to the lyric of emotion.

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Buddhist Philosophy and Symbology as a Tool for Wayfinding

Ideas from Buddhist philosophy and symbology are translated into the hotel's interiors, artwork, and signage, which also eases navigation.

The five wisdoms associated with Buddhism, represented in the Buddhist icon of *Vajradhatu Mandala,* are expressed in the five public spaces: reception, cafe, banquet, lounge, and spa-gym-pool. These wisdoms are fearlessness, the wisdom of *dharma,* giving and sharing, unity with oneself, and oneness with the earth.

Interior view of the cafe, one of the five public spaces that express the wisdom represented in the Buddhist icon of Vajradhatu Mandala.

The *mandala* associates each word of wisdom with a *mudra* (a symbolic hand gesture). Each *mudra* is further associated with specific colours, seasons, elements, and symbols, which are translated into interior design schemes for the spaces.

For instance, the spa-gym-pool, which represents the wisdom of 'oneness with the earth', is associated with the colour blue, which has been used in all the internal walls of the space. The wisdom's connection to the winter season is represented through the motif of a bare tree on one wall, and its link to the symbol of the *vajra* (a ritual object extensively employed in Tibetan Buddhist ceremonies) is represented by a wall pattern derived from an abstraction of the symbol. Finally, the wisdom's association with water is conveyed through the swimming pool and an abstract motif denoting the element of water, which is used in the signage for the space.

To Brick or Not to Brick

The romance of working with brick, widely used in Bodh Gaya's local and traditional architecture, was immense. However, the architects found that the sandy soil on the site had a poor bearing capacity, making brick foundations prohibitive. Furthermore, brick vaults are not accepted in the Indian Standard Code for earthquake resistance. Studies conducted also suggested that Autoclaved Aerated Concrete (AAC) blocks would insulate the interiors 1.5 times better than brick, thus saving costs and energy in the long run. Ultimately, a combination of materials

The spa-gym-pool, which represents the wisdom of 'oneness with the earth', is associated with the colour blue, which has been used in all the internal walls of the space. Wisdom's association with water is conveyed through the swimming pool.

Memory is invoked through traditional features of Buddhist architecture. Vaults, corbelled arches, and stepped jambs are re-envisioned in a contemporary idiom across all spaces in the hotel, reminiscent of the past but designed for the present.

A series of layers from outside to inside in the form of outdoor, semi-outdoor, and indoor spaces allow for a gentle transition into the public spaces as one enters the public block.

was chosen: RCC, local brick and AAC blocks for the structure, and terracotta-tinted concrete for the vaults—each material doing what is best for the project.

Collaborating with the Local Community

The hotel uses locally-made roof tiles with an earthy, crafted visual appeal as the last layer of insulation over the RCC vault roof—a conscious choice born out of the opportunity and need to support the local economy.

These half-round clay tiles, often called 'country tiles', are almost invisible in other parts of India. The industry is based on part-time farm labour, as families use the earth from their fields and a potter's wheel to create cylinders of clay that are then cut and fired into half-round tiles. The process, entirely intuitive and skill-based, relies on the potter's sense of when the clay has been worked enough to take off the wheel.

The architects collaborated with 26 local families in 12 villages near Bodh Gaya to handcraft 80,000 clay tiles, which insulate the vaulted ceilings – cheaper and far more sustainable than industrial insulation alternatives.

Passive Design Strategies to Regulate the Local Microclimate

Several passive design strategies are integrated into the design to reduce energy consumption and create a thermally comfortable environment, particularly during Bodh Gaya's hot and dry summers.

The residential blocks are oriented in the north-south direction to minimise heat gain from the western facade during the summer months. Aerated concrete blocks, double-glazed windows, and a double roof system topped with clay tiles create a well-insulated envelope.

The double roof constitutes a concrete vault and a pitched roof covered with steel and clay tiles, with an air gap between them. This keeps indoor temperatures comfortable in all seasons, thus reducing energy consumption.

Courtyards are introduced to facilitate natural ventilation. All circulation spaces, including the entrance lobby, which comprises 30% of the total space, completely depend on the natural air flow, significantly reducing air-conditioning loads. Additionally, water bodies on site further aid evaporative cooling.

Channelling, Conserving and Restoring Water

The hotel's extensive water management system illustrates the Buddhist idea of mindfulness and conscious consumption.

The site is located on a low-lying paddy field in close proximity to the Falgu River. In the three months of the monsoon, the river floods the regions in its vicinity. Therefore, the site has been raised to the same level as a nearby culvert that does not get submerged during monsoons.

In sharp contrast, the water in the river disappears during the summer. At this time, like in many other parts of India, water availability becomes a challenge in Bodh Gaya, making it crucial to harvest rainwater on site. However, due to its sandy-silty soil, the region's water percolation rate is exceedingly slow. Thus, to give the soil adequate time to soak in all the rainwater, several interventions are adopted to hold water while preventing flooding on site and, thus, any obstacles to the hotel's operations:

- Rainwater is collected in a number of underground harvesting pits on site. These deep pits with honeycombed walls hold the water until it seeps into the earth via openings in their walls and bases.
- Rainwater from some roofs is collected in underground tanks for irrigation.
- Bioswales have been integrated to allow water to seep into the earth as it flows through the site. The swales emulate natural streams, supporting a host of plants that grow on both edges.
- A pond has been created in the lowest portion of the site in the east; this pond can act as an emergency water holding area in case of a flash flood.

Roshni Kshirsagar is a partner at SJK Architects, a Mumbai-based collective that designs spaces meticulously crafted from a study of the local climate, culture, history, and technologies. She leads interior design across the firm's projects, letting cultural histories guide the design while allowing honest thought processes, materials, and craftsmanship to shine. Roshni has been featured by Forbes Magazine as one of India's Top 30 Under 45 Design Disruptors.
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Shimul Javeri Kadri is the founder of and a partner at SJK Architects, a Mumbai-based collective that designs spaces meticulously crafted from a study of the local climate, culture, history, and technologies. Under her guidance over the last 33 years, SJK Architects has delerived numerous projects across scales and typologies. In 2014, Shimul received a special mention at the prestigious arcVision Prize for Women and Architecture (Italy), also referred to as the "Pritzker for women".
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Vaishali Mangalvedhekar is a partner at SJK Architects, a Mumbai-based collective that designs spaces meticulously crafted from a study of the local climate, culture, history, and technologies. With 20+ years of rich design experience across sectors, from educational institutions to commercial buildings to hotels, Vaishali has led multiple award-winning projects pan-India during her time at SJK Architects.
vaishali@sjkarchitect.com

SUNSHINE PRIME

Ar. Tushar Sogani

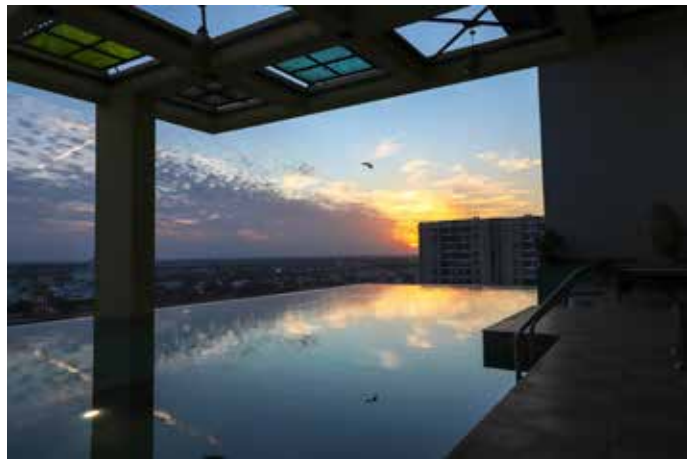
Fact File

Location	▶ 200 ft. Road, Near Iskon Temple, near Muhana Mandi, Mansarovar Extension, Jaipur.
Built-up Area	▶ 22130 Sq.mt.
Site Area	▶ 4164.19 Sq.mt.
Initiation of the project	▶ June 1, 2013.
Completion of the Project	▶ 2017
Photo Credits	▶ Mr. Rohit Bari
Design team	▶ Principal Architect - Ar. TusharSogani Project Architect - Ar. Abhishek Jain Asst. Architect - Ar. Vijay Barala CAD Assistant - Gajendra Sharma, Structural design - Er. Deepak Sogani M.E.P. Consultant - Er. Vipul Agarwal
Key Materials	▶ Fly ash Brick PPC Cement Vertical Landscaping Elements Re-bars with couplers

Front façade showing pool and terrace

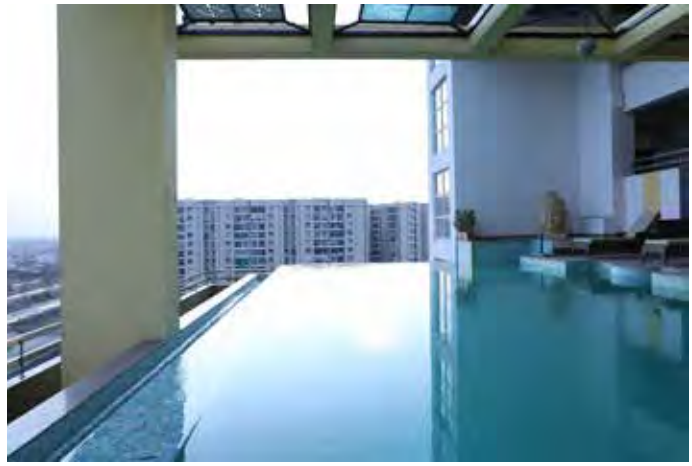
PROJECT BRIEF

'Sunshine Prime' is a social housing project located in the relatively new urban development zone near Iskon Temple, Mansarovar Extension. It has 165 units of 1, 2, and 3 BHK flats in a single block. The perfect blend of nature and built environment is a multi-levelled, picturesque central landscape area with magnificent and dynamic sky terraces at intermediate levels. Centrally located double-height alternate terraces act as multifunctional green spaces for residents. It is closer to a vertical collection of mini-neighbourhoods. It also creates alternate slits between the blocks in the construction and the large open space. This "localised-public" area provides residents with an interactive communal meeting place and features a garden with a stunning view. There is a club located on the upper 10th,



Evening view from the pool

View from the infinity edge pool



View from the infinity edge pool

Aerial view of the infinity pool

Pergola above the pool

Night view of the building

View showing stepped common terraces

Common terraces full of lush greens

Night view of the building

11th, and 12th floors with an open-to-the-sky infinity edge pool that gives a stunning, lifetime experience of swimming to the residents. Rooftop open seating, gaming, gym, and health club recreation will give residents an unparalleled amenity experience. The open spaces in the design allow natural light to enter and air to circulate. In addition to enjoying spectacular views of the surroundings, the development utilises solar power and passive solar energy. This modern public housing project frequently incorporates eco-conscious designs and elements, as efficient energy usage tends to be a priority. Last but not least, credit should also be given to the developer for taking a risk by allowing the "extra" green space to have leverage and be counted in the permissible FAR.

Ar. Tushar Sogani is the Principal Architect and Managing Director at TSDPL, Jaipur. He obtained his B. Arch. degree from Malaviya Regional Engineering College, Jaipur. He serves as the chairman of the Rajasthan Chapter of the Indian Institute of Architects, the GEM Rajasthan Chapter, the ASSOCHAM Green Rating Initiative, and the Arcasia Committee on Green and Sustainable Architecture (ACGSA). He also co-chairs ASSOCHAM's State Development Council of Rajasthan. He is a member of the government's board of experts formed under the building byelaws of the state, the editorial board of the Journal of the IIA, the Fire & Security Association of India (FSAI), and the Institute of Indian Interior Designers (IIID).
tushar@tsdplarch.com

SPORTS AND INTERACTIVE SPACES

Ar. Sanjay Mohe

Image showing informal breakout spaces

Fact File

Project name	▶ Sports Centre, Indian Institute of Management, Bangalore, Karnataka, India
Project Location	▶ Indian Institute of Management, Bangalore, Karnataka, India
Completion Year	▶ 2016
Gross Built Area (square metres or square foot)	▶ 3438 Sqm (37000 Sqft) (part of a 100-acre campus)
Lead Architects	▶ Sanjay Mohe, Arun Kumar, Er. Uday Kumar, and Er. Adarsh
Other participants	
Client	▶ Indian Institute of Management, Bengaluru
IIMB Project Manager	▶ M.S. Vishwanath
Structural Consultants	▶ Rays Consulting Engineers
Contractors	▶ Giriraju.P
Services Consultants	▶ Maple Engg-Design Services(India) Pvt. Ltd., Akash Electro Consultants Pvt. Ltd.
Sports field contractors	▶ Syncotts International
Tensile fabric contractors	▶ Technospan Structures Pvt. Ltd.
Swimming pool contractors	▶ Walrus Pools & Fittings Pvt. Ltd.
Photo credits	▶ PHX India, Mindspace
Photographer's website	▶ www.phxindia.in

Project Description

The proposed sports centre is planned in proximity to the existing hostel blocks. Planning had to take care of existing trees on site (as seen in Fig. 1). Using trees as focal points, main access and secondary access spines are created (as seen in Fig. 2). Sports facilities are planned on two levels in response to the contours on site. The structure is designed as a non-building emerging out of the existing green ground (as seen in Fig. 3). There is a gradual transition from the pergola-covered, double-height main circulation spine to a semi-open verandah and eventually to the enclosed sports hall (as seen in Fig. 4). Wide steps and platforms provided amidst the sporting facility hold cultural activities and also connect the building to the landscape (as seen in Fig. 5). The design concepts are intended to establish a tranquil relationship between building, human, site, and nature. In common rooms for staff and students, interaction zones are provided to encourage informal interaction (as seen in Fig. 6). The material palette is predominantly stone and concrete to unify the new with the prevailing material language (as seen in Fig. 7). All the sports facilities adhere to international standards. (as seen in Fig. 8).

Facilities:

outdoor play area:

- Basket ball court - 1 no.
- Lawn tennis - 1 no.
- Volleyball court - 1 no.
- Swimming pool (semi-olympic size).

Fig. 1: Site Profile with existing trees and the contour profile

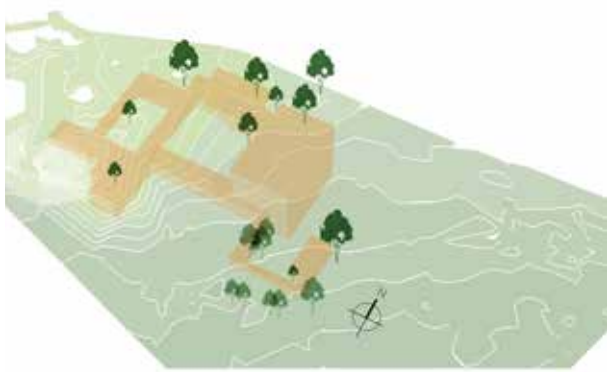
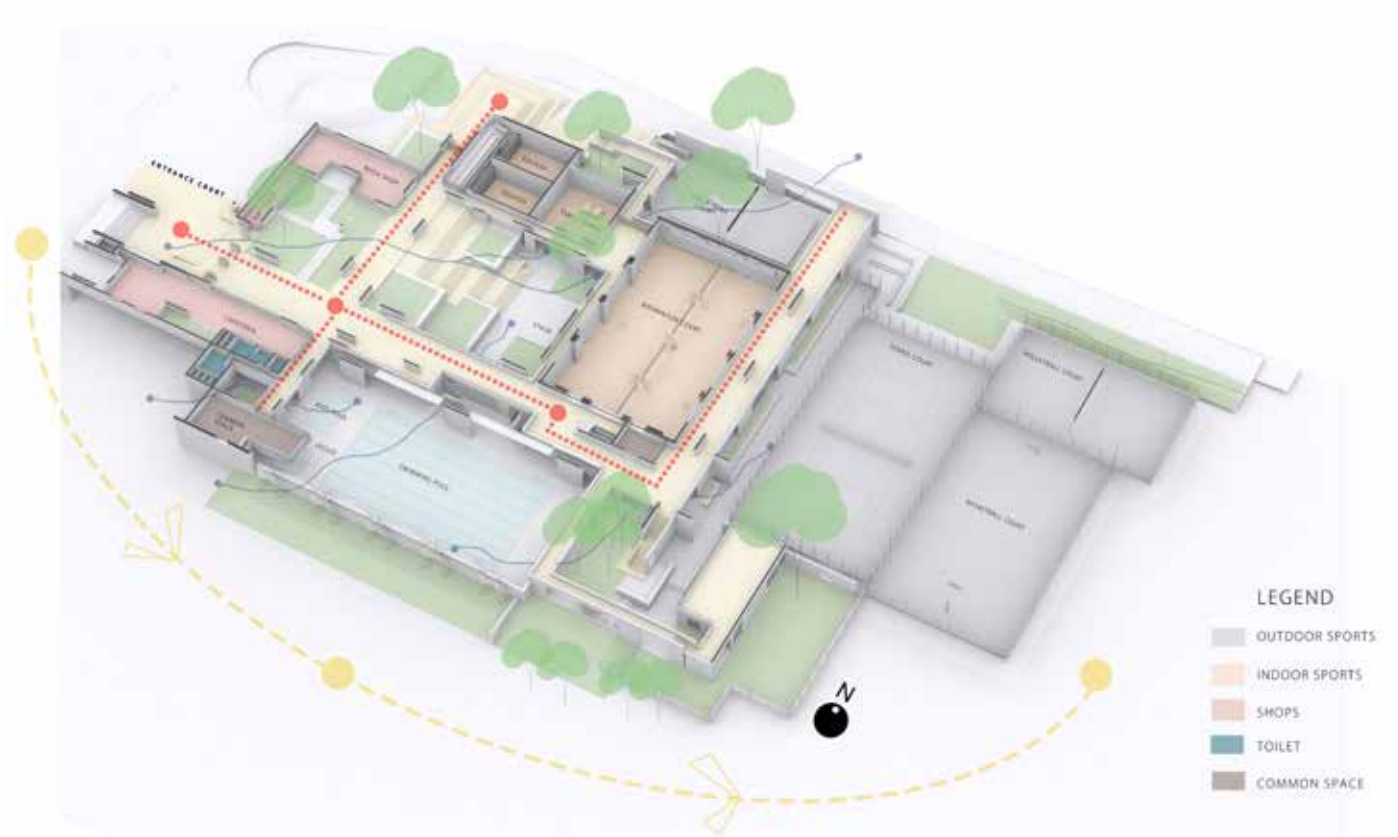


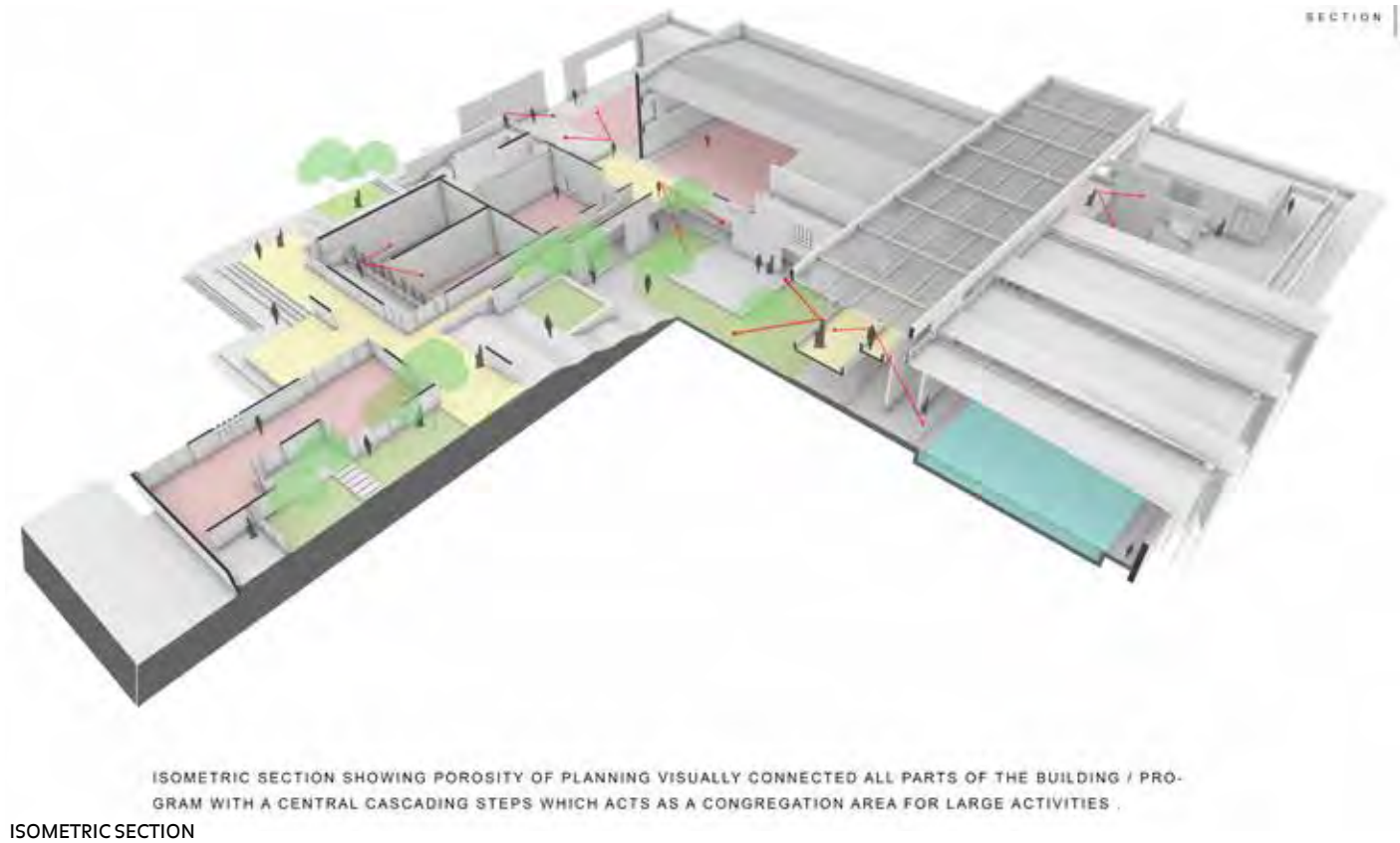
Fig. 2: Built form planned around existing trees

Fig. 3: Built form planned to respond to the contours at site

Ground floor plan



First floor plan



ISOMETRIC SECTION SHOWING POROSITY OF PLANNING VISUALLY CONNECTED ALL PARTS OF THE BUILDING / PROGRAM WITH A CENTRAL CASCADING STEPS WHICH ACTS AS A CONGREGATION AREA FOR LARGE ACTIVITIES .

ISOMETRIC SECTION

3D SECTIONS

Fig. 4: Image showing the central spine

Fig. 8: Image showing the semi-Olympic standard pool

Fig. 5: Image Showing steps and landscape courts

Fig. 7: Image showing material palette to match existing campus language

indoor play area:

- badminton court- 4 nos.
- table tennis- 2 nos.
- squash court- 2 nos.
- chess and carrom facility

other facilities

- gymnasium
- spa, sauna, and steam bath
- change rooms
- Music room
- Dance room
- sports equipment store
- common toilets
- instructor's room
- grocery/sports equipment shop
- book shop and gift shop
- students' common space with meditation facility
- restaurant and kitchen

The founder of Mindspace Architects, architect **Sanjay Mohe,** is an award-winning architect. These awards span projects such as research laboratories, institutions, hospices, resorts, residences, corporate offices, and campus design. Ar. Mohe hails from the Sir JJ School of Architecture and later encompassed various work experiences in Saudi Arabia, Charles Correa Associates, and CnT.
mohe@mindspacearchitects.com

TEMPLE OF STEPS

Ar. Sameep Padora

The temple in its landscape setting

Fact File

Name	▶ Balaji Temple (Temple of Steps)
Client	▶ Anushree Jindal, JSW Cement
Location	▶ Nandyal, Andhra Pradesh, India
Area	▶ 2.5 acres
Architects	▶ Sameep Padora & Associates
Design Team	▶ Sanjana Purohit, Vami Sheth, Aparna Dhareshwar, and Kunal Sharma
Structural Engineer	▶ Vishwanath Associates, U. Vennkatessh
Material	▶ Limestone
Photographs	▶ Edmund Sumner

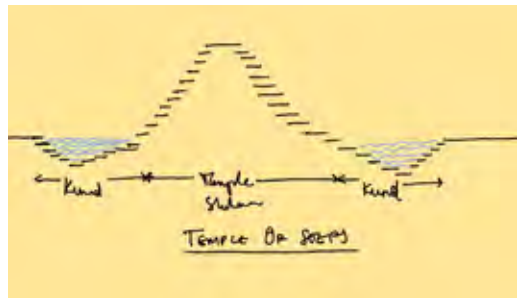
Project Description

The brief was to design a temple for the residents of the villages around Nandyal. In the dry terrain of Nandyal, the main concern was to provide a space that would marry the socio-cultural expectations of a temple with the ecological framework and dynamics of and around the site. In the immediate context of cotton and chilly farms in the region, a natural canal system had dried up. The ecological strategy for the temple thus began with the recharge of groundwater. Water overflow from the limestone quarries was led to a low-lying recharge pit, or 'kund," the banks of which were imagined as a social space, in the manner of a traditional ghat, a flight of steps leading down to a waterbody. This negotiation of land and water with steps is a significant part of India's architectural heritage, as is seen in the kunds (water tanks) within temple precincts. The water infrastructure is able to harvest roughly 137,000 litres of water.

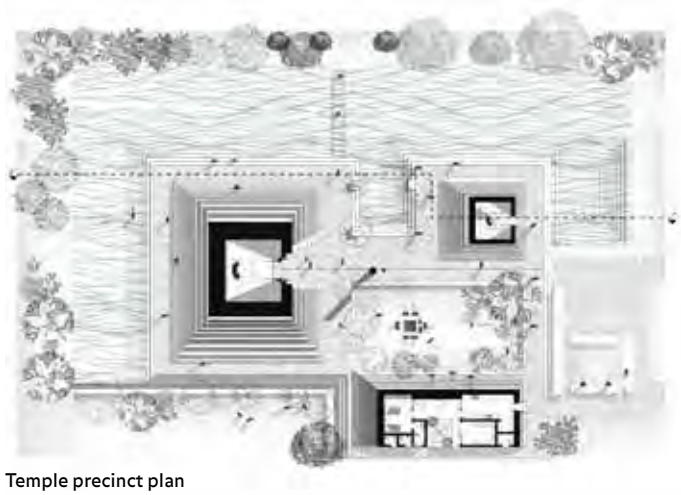
The planning of the temple itself was based on a 10th-century temple for the same deity at Tirupati in southern India and similarly includes the Balaji and Varahaswamy shrines and a Pushkarini (water tank).

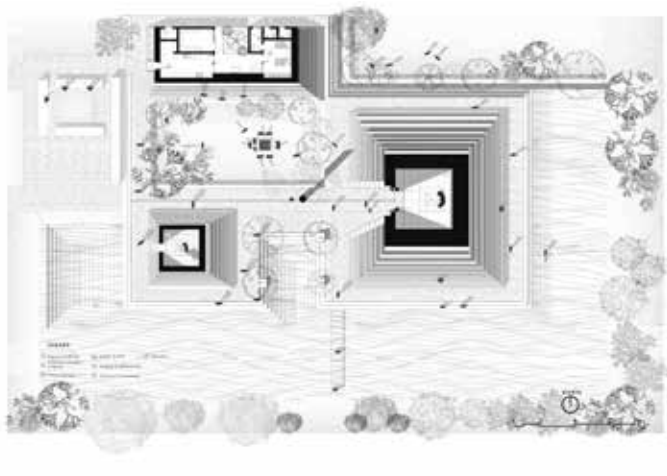
The construction process uses locally available black limestone slabs corbelled to form the main body of the temple. The same corbelled profile also incorporates soil and planting in the lower half of the temple body to buffer against the heat, and finally, this stone corbelling turns into a ghat, i.e., the steps that access the water.

Birds view

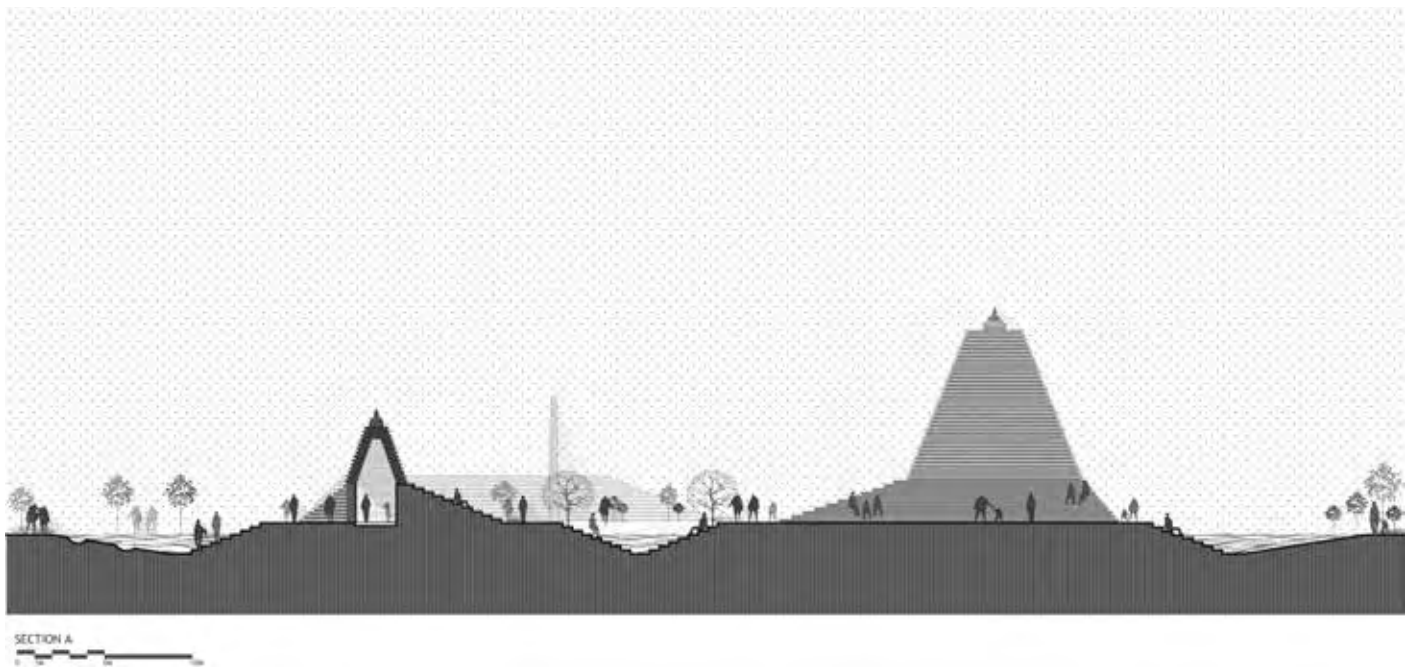


Concept studio

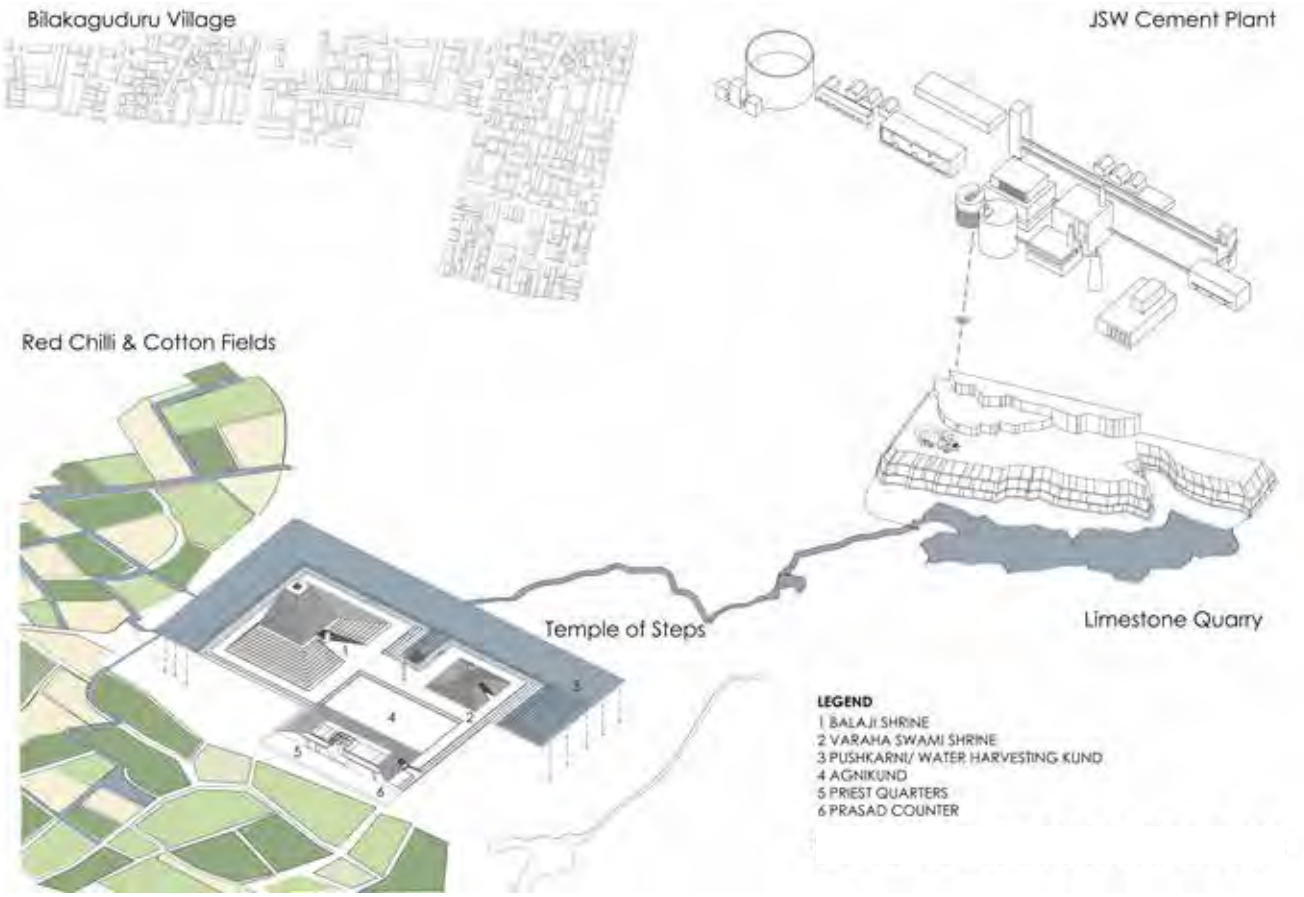




Temple precinct plan



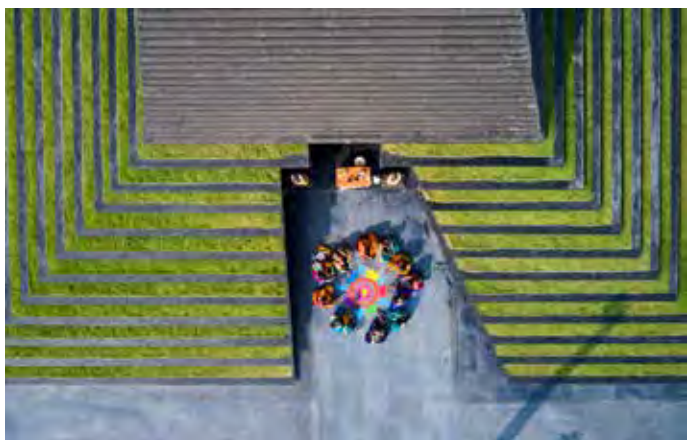
Section through temple complex



Balaji Temple ecological plan

Aerial view

Entrance to shrine



Entrance to shrine

View from Arrival

Garbhagriha

Evening view

Project Critique by Praveen Bavdekar
(Principal, Third Space Studio I, MArch., DRL Architectural Association)

The Balaji temple in Nandyal explores and abstracts the long tradition of the temple typology in India.

The architectural philosopher Andrew Benjamin wrote that every act of design was a repetition and that architecture is about exploring what not to repeat. This building too repeats or emulates certain tropes of the Hindu temple so that it is recognisably a temple, yet it doesn't replicate those tropes but rather breaks them down into constituent parts to then again reconstruct it.

One looks at the relationship between the temple and the kund (stepped water tank) as a contradictory yet complementary one of binary opposites. It is a relationship between a solid and a void, between reaching out to the sky and going deep into the ground, about accretion and excavation.

This relationship, which is so obvious, often goes unnoticed. By employing the same architectural device (steps or corbels), one makes this explicit and yet delightfully abstract. Suddenly, it becomes obvious that the kund (stepped water tank) is the inverted negative of the shikhara (spire), and it leads one to reread this whole dialectic between the two, even in the temples of the past.

The use of horizontal layers, or corbels, is an abstraction of how Hindu temples have employed these corbels to achieve verticality, and yet at the Balaji Temple, by making the form rise gradually from the ground, it destabilised the notion of the temple as a simple figure on the ground.

This gradual rise echoes perhaps the protohistoric roots of the shikhara (spire) as a simple, gravity-driven primordial mound or pyramid.

Jacques Herzog talks about how he encountered an architecture in India that has a very different concept of space. Unlike the western or Islamic project of space, where they try to achieve maximum interior spatiality through minimum structure, in India he encountered an architecture where the interiors were almost carved out and the buildings had an intentional heaviness to them. While he was being very facile, at some level, this 'weight' and 'carved void' seem to echo in the Balaji Temple.

Born in Chamba, Northern India, **Sameep Padora** established his Mumbai-based practise in 2007 after graduating from the GSD at Harvard University. In response to India's socio-cultural diversity, the studio has, over the years, operated through multiple modes of practise. Besides the architectural practise, the studio also runs a not-for-profit sPare that researches issues of urbanisation in India with a focus on housing. sPare's research publications; *In the Name of Housing, How to Build an Indian House, and (de)Coding Mumbai,* are projects attempting to unravel the production of affordable housing in Indian cities. This work has been published in India and internationally and was also exhibited at the Seoul Biennale in 2019.
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PALIMPSEST OF AN ARCHITECTURAL TYPOLOGY
RECONFIGURING THE TEXTILE HUB

Varssni Karthick

Palimpsest refers to any kind of surface or structure that bears multiple layers of visible or hidden information, creating a complex and layered history that reveals itself through close inspection and interpretation. In architecture, it reflects the ways in which a typology has been transformed and adapted over time and how these changes have contributed to its current character and identity.

Architecture has always been a product of its era, reflecting the needs and aspirations of the populace. The architectural profession is essential to developing solutions for a more sustainable future as we tackle the challenges of the twenty-first century. New typologies that address present-day expectations and challenges are one such approach.

The development of context-aware closed-loop textile hubs is a fascinating field for investigation. These hubs mark a substantial shift from conventional textile production plants, which were frequently energy- and resource-intensive. These centres aim to develop a sustainable paradigm for textile production that lowers waste and energy use while raising efficiency by using a closed-loop or circular design approach.

Le Corbusier's essay "Architecture as a Machine," which envisioned architecture as a practical, logical entity that could optimise effectiveness and productivity, serves as the basis for this new type. Figure 1 shows certain aspects of this concept that can be translated into architectural design. Architecture can respond to human and environmental concerns while also upholding the values of sustainability and innovation by approaching the textile hub like a machine.

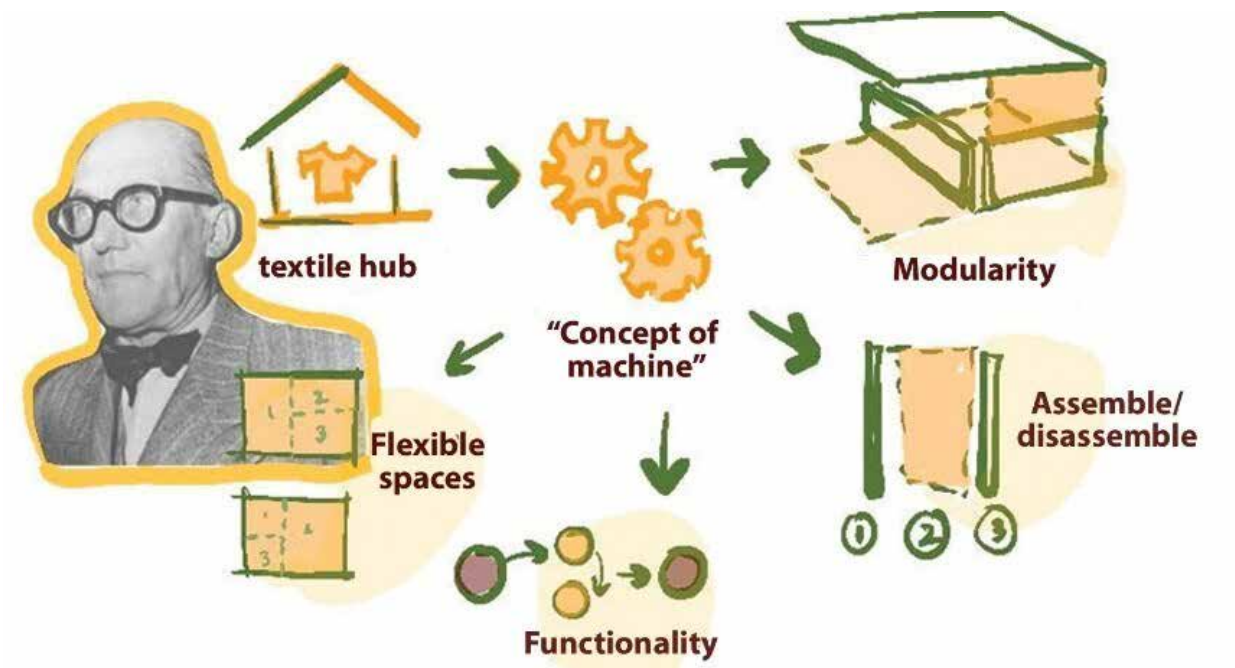

Figure 1: "Architecture as a machine".
(Source: Author)

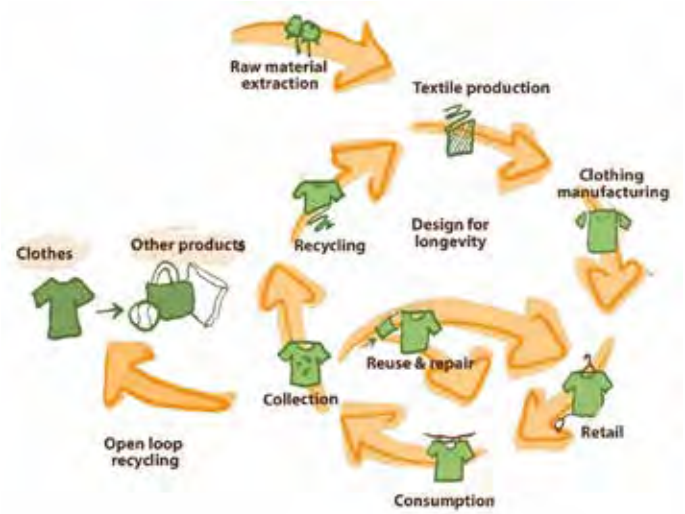

Figure 2: Closed-loop design of textiles.
(Source: Adapted by Author from the circular cycle of textiles by Ellen Macarthur Foundation, 2017)

Using Le Corbusier's treatise and the principles of circular design as seen in figure 2, we will examine the important elements that determine the design of a closed-loop textile hub typology in various contexts.

Defining the basis for this new typology

A circular economy is "an industrial system that is restorative or regenerative by intention and design," according to the Ellen MacArthur Foundation [1]. The novel typology of a closed-loop textile hub, which seeks to reduce the environmental impact of textile production, is built on this idea, and figure 3 elucidates this idea with a mind map.

The effect of architectural tectonics is a crucial factor to take into account while developing a closed-loop textile hub. Consequently, the materials needed to interface with a closed-loop textile hub must be deliberately picked for their strength, sustainability, and capacity for recycling or reuse.

The new typology's reflection of the textile hub's programme is another crucial feature. This entails developing a design for a closed-loop textile hub that satisfies the requirements and preferences of all key stakeholders, including consumers, brands, textile designers, handloom weavers, visitors to textile museums, weavers, and the general public. The flexibility of places combined with the layering of the user experience can accomplish this.

Another important component of the new typology is sustainability. This entails designing an area that is open to everyone and welcoming through participatory spatial programmes and inclusivity. Also, as stated in the book 'Sustainable Architecture: Concepts, Paradigms, and Case Studies', optimal space utilisation and materiality can be employed to reflect an ecological architectural approach [2]. A closed-loop textile hub should be self-sufficient in regards to drawing in revenue and attracting tourists.

In conclusion, the reconfiguration of a closed-loop textile hub incorporates the principles of the circular economy, carefully selected materials and construction methods, a design that satisfies the needs of stakeholders, and a commitment to sustainability through inclusivity and effective space utilisation. To provide a sustainable solution for the textile industry, it is critical to establish closed-loop textile hubs that combine slow fashion and handloom without resorting to mass production. In comparison to international flights and shipping combined, the textile industry emits 1.2 billion metric tonnes of greenhouse gases a year, according to a report by the Ellen MacArthur Foundation [1]. The closed-loop textile hub can benefit the environment by embracing circular design principles, including reusability, upcycling, and sustainable materiality.

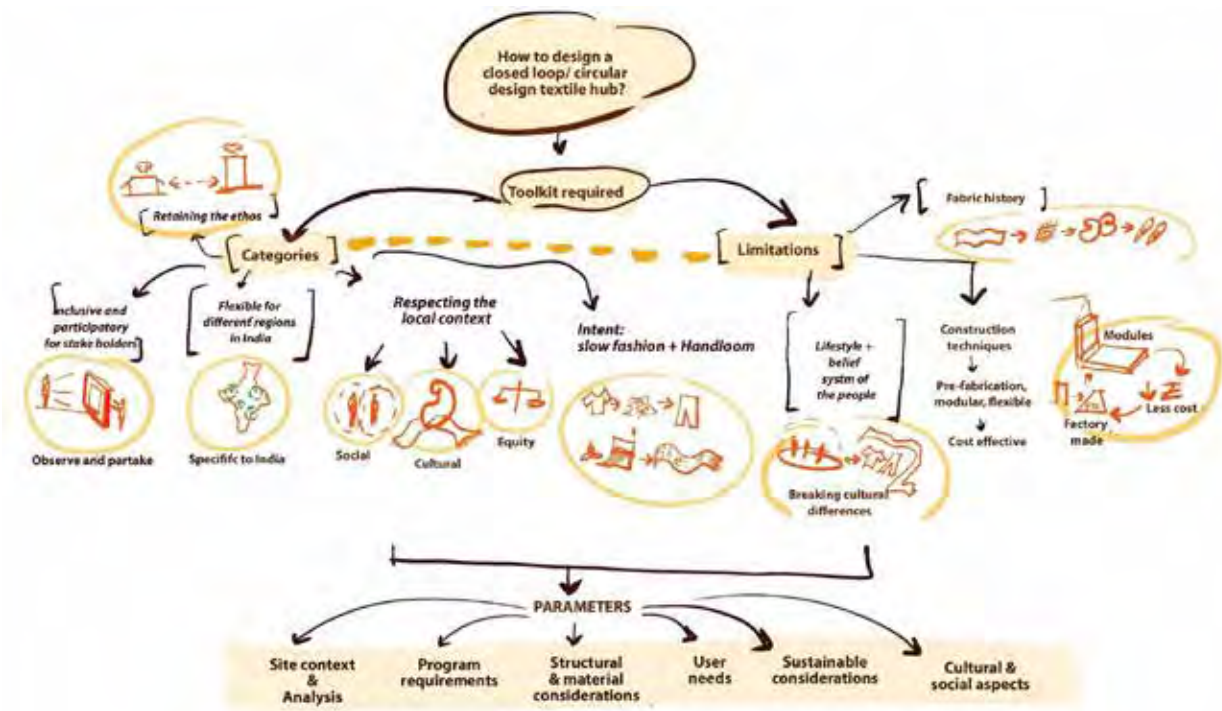

Figure 3: Mind map of the textile hub configuration.
(Source: Author)

Toolkit for creating this new typology:

Site analysis and contextualization

A new typology for a closed-loop or circular textile hub must be created while taking into account the particulars of each location. Le Corbusier famously observed: "Architecture is the skillful, perfect, and majestic bringing together of masses in light. Cubes, cones, spheres, cylinders, and pyramids are some of the major fundamental forms that light advantageously shows to us; the image of these is distinct and tactile within us without ambiguity. Our eyes are meant to discern forms in light; light and shadow reveal these forms." [3] In order to create an efficient and site-responsive design, it is essential to comprehend how light and shade interact on a site.

Figure 4 shows the parameters that are to be considered after studying the site of the textile hub. Local materiality and building methods that tie the design to the site are crucial to creating a closed-loop textile hub typology that can be used everywhere. The building must emerge from the site's soil, according to Pallasmaa, who asserts in his various treatises that architecture is inherently based on the materiality of place and culture. He says, "The ideal architecture grows out of the site and the building task and is inseparable from them." [4] This can be accomplished by looking at the site's characteristics and the local context, including the scenography and textile standards.

Programmatic Requirements and Functional Considerations

The functional requirements of a closed-loop textile hub are intricate, and careful planning is required. As Le Corbusier once said, "The house is a machine for living in." [3] Similarly, a closed-loop textile hub can be seen as a machine for textile production. Figure 5 portrays the possible programmes to be included in the holistic vision of a closed-loop textile hub. Workshops on handloom techniques, slow fashion, upcycling, and thrifting must be included in the schedule for the new paradigm of a closed-loop or circular textile hub. Other crucial elements are thrift stores, thrift receiving spaces, and environmentally friendly shopping establishments.

A hub for apparel design consultancy should also be a part of the programme so that buyers, weavers, and textile designers can interact. A training centre for weavers, a textile innovation centre, natural dyeing R&D centres, fashion expo forums, and halls that can be multipurpose in nature must also be incorporated. According to Peter Zumthor, what we need are "buildings that resonate with life because they are designed with life in mind." [5]

Following the thread of this quote, an example that emulates this ideology is the Fashion for Good Museum in Amsterdam [A], where sustainable fashion is the main focus of the programme. The museum's mission is to inform visitors about the negative environmental effects of rapid fashion and to present sustainable alternatives. The area has both a retail store where customers can buy sustainable fashion items and an exhibit area where cutting-edge sustainable fashion ideas are displayed.

Structural and material considerations

A successful typology must have a consistent design language, and incorporating fabric architecture into the design is one way to do this. Local typology and the global aspect of the

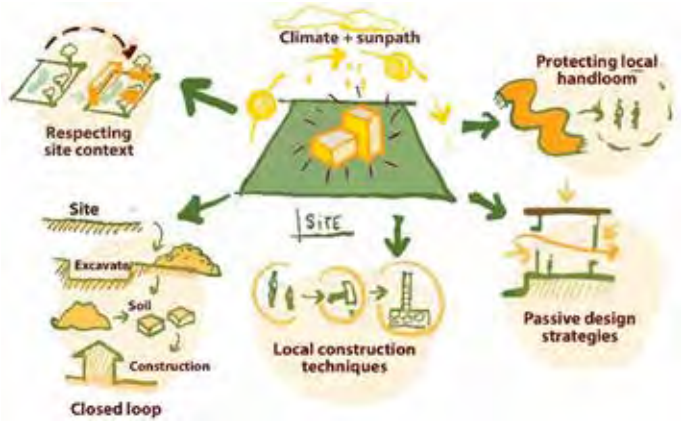

Figure 4: Parameters from site analysis. *(Source: Author)*

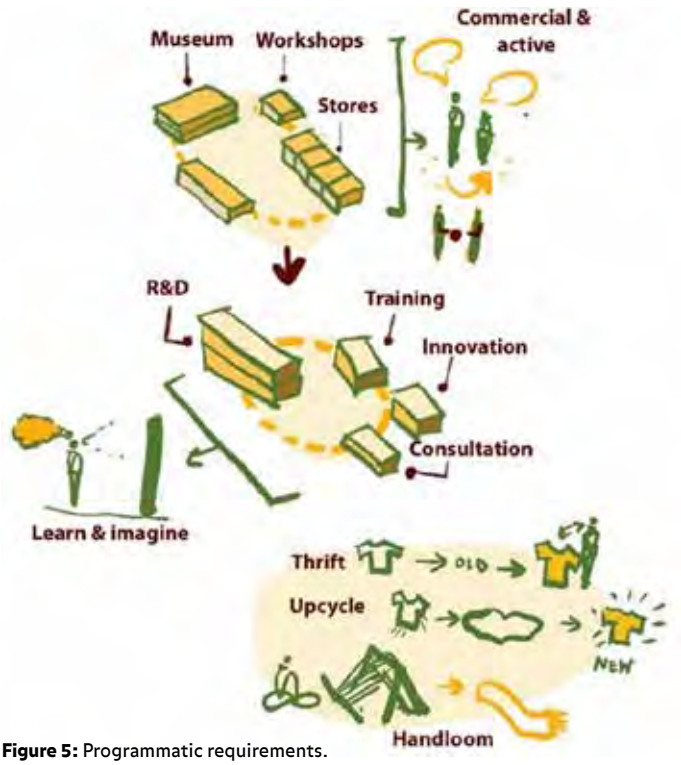

Figure 5: Programmatic requirements. *(Source: Author)*

hub are two attributes that are fused together in this ideology to root the design in the context while allowing it to embody the notion of textiles, as seen in Figure 6. Likewise, Peter Zumthor said, "It is a matter of creating spaces that resonate with the emotions and experiences of the people who inhabit them." [5] Fabric architecture is a strategy that might involve incorporating PTFE membranes or meta-components that resemble handlooms into interior partitions, textile facades, and fabric exteriors. The building might also be modular in terms of walls and floor layouts, enabling a space to be moved about and transformed into other configurations.

In order to find structural solutions that are both environmentally friendly and economically viable regionally, unconventional materials like the fusion of steel and cloth architecture with regional building materials like earth, stone, and brick architecture should also be taken into consideration.

User needs and behaviour

In addition to the programmatic needs, the user experience

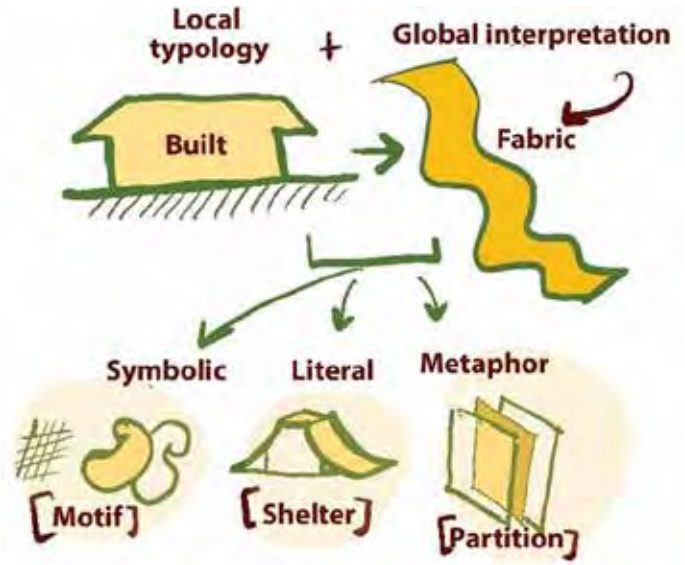

Figure 6: Fabric architecture with local buildings typology. *(Source: Author)*

must be taken into account while developing a new typology for a closed-loop or circular textile hub. Here, we should emphasise the significance of examining user intersections and identifying shared goals that permit optimum space efficiency and financial effectiveness while still maintaining a fair design for all users.

Environmental and sustainable considerations

We must consider ecological solutions while developing a closed-loop or circular textile hub since environmental sustainability is a major concern. Figure 7 highlights the use of renewable energy sources and rainwater collection, as the hub should strive to be a self-sufficient area. Materiality, space, and economy are three areas where sustainability should be taken into account.

Materiality considerations should centre on the fabrics used, preventing waste by allowing leftovers to be salvaged or repurposed into new clothing. Also, to provide fresh and inventive methods to dye materials sustainably, the hub might incorporate research and development facilities for natural dyeing. Every space should serve a purpose and be intended to be used in numerous ways, according to the circular design principles, which minimise the overall footprint of the space. Economic sustainability should take into account both the overall energy efficiency of the facility as well as the cost-effectiveness of the materials used.

Cultural and social aspects

The cultural and sociological features of the local area must be taken into account while designing a closed-loop textile centre. As seen in figure 8, the design should be in keeping with the local population's cultural ideas, values, and customs. For instance, buying used clothing from thrift shops tends to be frowned upon in India. In order to address this issue, the hub should feature a section devoted to educating people about upcycling and slow fashion, as well as interactive exhibitions and seminars that show the advantages of wearing used clothing and reusing old materials.

Also, the building should contain cultural cues like themes, patterns, and symbols to reflect the region's textile traditions. This can be achieved through the use of local materials and

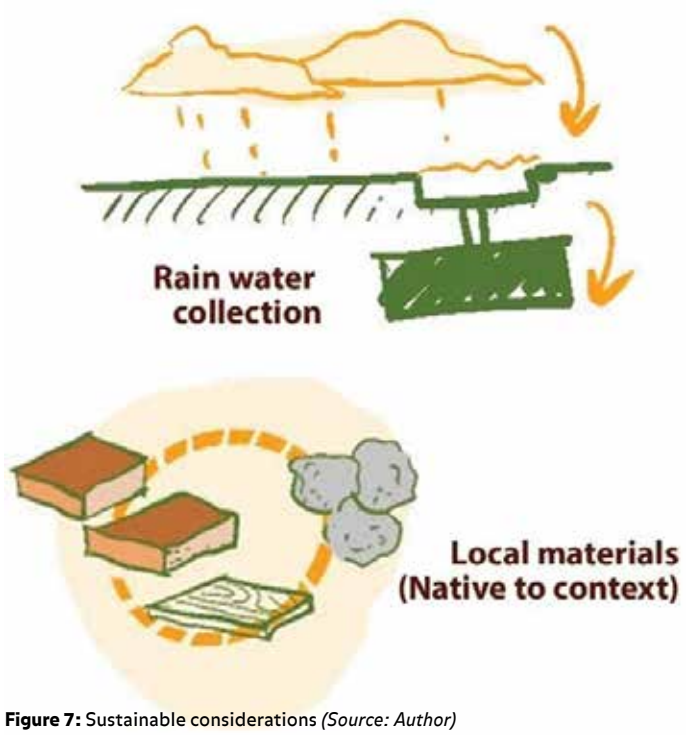

Figure 7: Sustainable considerations *(Source: Author)*

construction techniques, as well as through the integration of local artisans into the design process. As architect Charles Correa once said, "I believe that architecture is rooted in its place and time, that it grows from the nature of its local materials and its social context." [6]

Understanding the social customs and way of life of the local populace is crucial if the closed-loop textile hub is to be socially and culturally sustainable. By involving the community in the design process, this can be accomplished. The hub should also provide areas for leisure, cultural, and business pursuits that cater to neighbourhood needs and interests.

The Aranya Community Housing project in Indore, India [B], created by architect Balkrishna Doshi, as seen in figure 9, is a successful project that incorporates cultural and social aspects into the design. With dwellings grouped in clusters and connected by courtyards and alleyways, the project was created to reflect the culture and customs of the neighbourhood, fostering a sense of community and social interaction. With houses grouped together and connected by courtyards and alleyways, the project was intended to reflect the culture and customs of the neighbourhood, fostering a sense of community and social interaction. The design includes areas for communal activities, such as markets and playgrounds, as well as native building materials and construction methods, like brick, stone, and lime plaster.

In conclusion, a closed-loop textile hub offers a chance to develop an innovative and sustainable method of producing textiles while simultaneously promoting slow fashion and upcycling. A successful and sustainable closed-loop textile hub can be designed through a site analysis that takes into account local materiality and construction techniques, consideration of programmatic requirements, structural and material considerations, user needs and behaviour, environmental and sustainable considerations, as well as cultural and social aspects.

Figure 8: Social and cultural norms based on regional context. *(Source: Author)*

Figure 9: Aranya Housing Project, Indore, India.
(Source: achitectureindevelopment.org)

Conclusion:

The major thrust areas for the design of a fabric and textile hub in an Indian regional context are summarised below, and they can be employed as a checklist. These elements can be used to build cutting-edge architecture that supports sustainable practices and raises awareness of slow fashion.

Site contextualization and analysis
- Include regional building materials and methods.
- Think about the scenography and site features.
- Discuss the needs for local textiles and the difficulties with handlooms.
- Utilise attractions like entertainment, retail outlets, and food.

Programmatic Requirements and Functional Considerations
- A museum of textiles and slow fashion, workshops on the handloom technique, slow fashion, upcycling, and thrifting, as well as a thrift shop and sustainable retail outlets, should all be included in the programmes.
- Add a centre for weaving instruction, a textile innovation centre, natural dyeing R&D centres, fashion exhibition forums, and multifunctional rooms where clients, weavers, and textile designers can consult on clothing designs.

Structural and material considerations:
- Design language that is consistent with fabric architecture
- Including handloom in interior partitions, textile facades, and fabric exteriors that can also be interactive for customers or visitors.
- Create the construction with modular wall and floor plans.
- Guarantee locally appropriate, cost-efficient structural solutions.

User needs and behaviour:
- The application should be layered with a user experience tailored to each circumstance.
- Find comparable interests among users at user intersections to maximise space efficiency.
- Take into account design equity and cost effectiveness for all users.

Environmental and sustainable considerations
- Design with consideration for environmental issues and use rainwater collection to establish a self-sufficient hub.
- Assure sustainability in three areas, including materiality, spatial, economic, and environmental considerations for the materials used. Permit leftovers to be upcycled or repurposed into new clothing.

Cultural and social aspects
- Dispel cultural stereotypes that keep Indians from visiting thrift stores.
- Include cultural symbols in textiles that are used to express symbolism, themes, patterns, etc. in the design language.
- Understand the social norms of each region for entertainment, commercial, and cultural aspects of the spatial programmes.

This toolkit hypothesis could allow architects to preserve the concept of the textile hub while designing spaces that address the demands of users and society in different geographical and social contexts in India.

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ENABLING WELL-BEING THROUGH DESIGN AND HEALTHCARE INFRASTRUCTURE

Ar. Saurabh Gupta

Well-being is a combination of a person's mind, body, sentiments, and surroundings, all of which are strongly linked to one another. Among many others, architectural design is one of the mediums that can directly impact an individual's physical, social, and mental well-being and that of communities at large. While each of these—physical, social, and mental well-being—can be seen as being intrinsically different, their influence on each other demands that the design of a building cater to them comprehensively. With no set order of preference or importance, one must approach them as the sides of a pyramid that are interconnected and equally emphasised. Well-designed spaces can create positive experiences for the mind, cater to the body's physical needs, and offer opportunities for meaningful social interaction. The three factors of well-being must be designed together and approached in their entirety for optimum results.

For any building typology, design is equally influenced by spatial experiences, materiality, and nuances in design as it is by the intent of building pragmatically functional buildings. Just as the analysis of various functions, activities, and fundamental requirements of a building is critical for space optimisation and design development, considerations of factors such as ease of navigation, air circulation, and natural light are important to positively impact the physical health and well-being of the end-users. Living in a post-pandemic world, we have all learned the importance of fresh air and cross-ventilation. It is an emphasised reality that can be implemented through well-designed systems for HVAC and other allied services.

Mental and emotional well-being can be harmonised through practising design that is conscious and responsive to what the user experience space has to offer. The incorporation of natural components like exposure to fresh air, ample natural light, greenery, and open spaces is significant for all building typologies. It is also pivotal to carefully consider the material selection in terms of colour and texture to enhance spatial quality and the building experience.

Well-designed spaces are a valuable community resource, and their impact is far-reaching and perennial. Clever planning and design can introduce multiple ways and instances to foster and improve interactions between users and residents. A building layout may offer plenty of spill-out areas that encourage conversations while being respectful and responsive to the privacy of residents and individuals. Even circulation patterns can be strategically developed to enable these interactions and contribute positively to the social well-being of users.

Improving well-being in healthcare infrastructure through design

The physical-mental-social well-being pyramid is a critical consideration when dealing with healthcare architecture. Typically, hospital building design is perceived simply as a node to provide medical services of varying scales where patient well-being primarily depends on the doctors and medical experts. In the real world, the design holds the power to simulate recovery in patients and also has an effect on carers and medical professionals operating from space. Colours, materials, light, ventilation, and the general quality of space have proven to be impactful and contributing factors to patient recovery and mental health improvement. For example, employing muted palettes of tones and finishes within the hospital interiors induces a sense of serenity among patients and visitors. Additionally, based on the usage of the building premises, an optimal balance between the open and built spaces provides opportunities to design much-needed break-out areas and green zones.

With changing times, the coming together of building design, interior design, and engineering services is redefining the healthcare infrastructure footprint in the country. Still, holistic approaches to improving these, particularly in tier I and II cities, need deliberate attention.

Conclusively, public facilities, particularly in healthcare, that adhere to high standards of care, follow maximum directives of medical and instructional requirements, and offer beneficial spatial experiences. Architecture and design must help foster physical, mental, and social wellness as a whole among occupants and attendees throughout developed and developing cities.

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ARE WE DESIGNING FOR ALL?

Dr. Kavita Murugkar

'Who are we, and what kind of society do we live in?' can be understood best through the environment we create around us—the streets, public spaces, buildings, and places where we live and work. Any place that offers equal opportunity for all, is safe and healthy, facilitates harmonious living, and fosters universal brotherhood and empathy is INCLUSIVE in nature and thus represents an INCLUSIVE SOCIETY. The right to access and shelter for ALL is a human right, as per our constitution and the United Nations Protocol, to which India is a signatory. However, there are sections of people within society who are still discriminated against on the basis of their differences and deprived of their fundamental rights to equal choices and opportunities for participation. Within this population, the most ignored and left out but vulnerable are the PEOPLE WITH DISABILITIES, who represent almost 4 to 8% of our population, and the senior citizen groups, which amount to almost 40% of our population. In all the development-related initiatives ranging from city planning to infrastructure to individual buildings, the most EXCLUDED are people with disabilities and the elderly. In spite of related laws and policies that protect this basic right, we find that almost all of us inadvertently violate this right by creating INACCESSIBLE and DISABLING environments. Hence my question: – ARE WE DESIGNING FOR ALL?

Western societies abroad are conscious of this need and have taken concrete steps to ensure that every citizen, irrespective of whether they are disabled or not, is addressed in the process of the design and creation of physical infrastructure, thus empowering them through self-reliance. That is the reason their LIVABILITY INDEX is extremely high, while Indian cities score very poorly on this rating. DISABILITY is universal and can occur to any of us in our life cycle as a result of some accident or as part of ageing. It is more of a mental, social, and environmental creation and less of an individual's attribute. Hence BARRIER FREE and AN ACCESSIBLE environment is a universal need, for each one of us. Victor Papaneck, a renowned architect says – *GOOD DESIGN ENABLES AND BAD DESIGN DISABLES.* As a result of non-acceptance and poor attention to this universal need, there are not even a handful of buildings in our country that are ACCESSIBLE to ALL. This is also, in a way, a huge economic loss by missing out on a potential client group and the needs of people that may not be satisfied through a design that is only based on the needs of the non-existent STANDARD USER OR ABLE BODIED.

Many think that by creating SPECIAL ENVIRONMENTS or SPECIAL FEATURES like senior citizen housing, homes for the disabled, special schools, rehabilitation centres, etc., we are being empathetic to the needs of these special groups, but unknowingly we are discriminating against them and excluding them forever from the mainstream. What is required is an urgent shift in the way we design and create buildings and infrastructure. A UNIVERSAL DESIGN approach that *creates products, environments, and services that are usable by all people to the greatest extent possible without the need for adaptation or specialised design* needs to be widely adopted in the practice of construction. Universal Design is an emerging concept in architectural education and practise, that explores relationships between disability, diversity, design, democracy, equity, self-reliance, and the physical environment. It is a means to address Social Sustainability by using *Design as an Equaliser.*

For example, the innovative concept of a STRAMP, as shown in the picture, being a combination of a ramp and steps, offers choice and independent mobility for many types of users, including those who use wheel chairs or have ageing issues.

The concept of universal design has now spread worldwide and is practised in many different ways. New ideas and new professional methods have been implemented and have many names and professionals connected to them, such as *Design for All, Inclusive Design, Participatory Design, Human-Centred Design, Usability, Life Span Design, Independent Living, etc.*

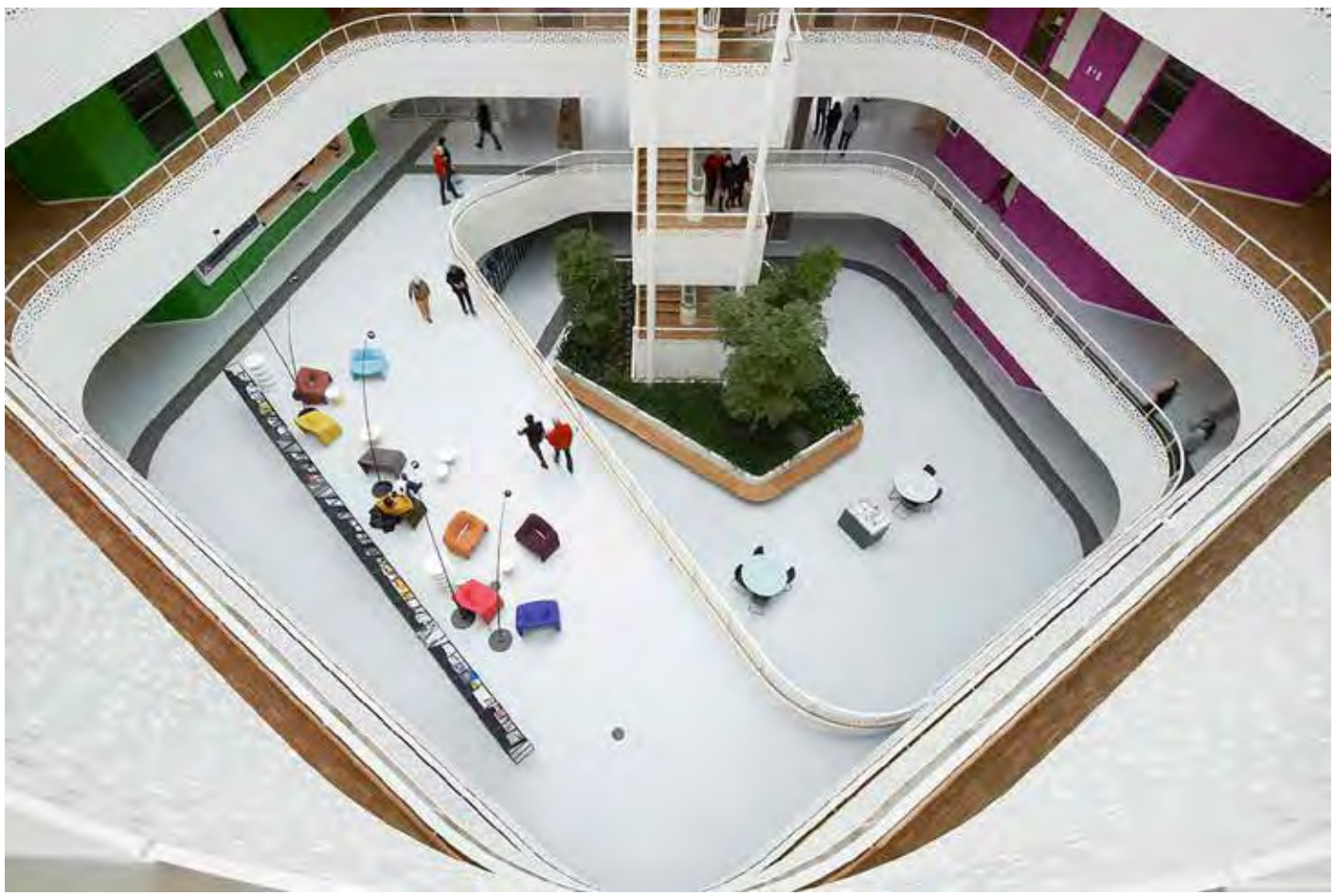
By building the design strategy around Universal design, where the main focus is on the principles of 'EQUAL ACCESS', many countries on the world map are creating fully accessible buildings and public infrastructure that can be used equally by all. Accessibility is often associated with the guidelines set out in our building regulations, but working with Universal Design does not merely demand extensive knowledge about requirements and standards, but perhaps even more importantly, adequate knowledge and understanding of the needs of functionally disabled users. The building, therefore, is the result of a process in which accessibility is not based on building regulations but on in-depth research and understanding of the users. Such knowledge is essential in order to be able to build with full accessibility for everyone.

The Disabled Peoples Organisations Denmark (DPOD) office building has been recognised as the most accessible office building in the world as it meets the highest standards of inclusive design while also showing substantial reductions in energy consumption and respect for climate challenges.

The world-famous Guggenheim Museum in New York, designed by master architect Frank Lloyd Wright, with its gentle spiral ramp riding to a domed skylight and the open design, affords disabled as well as non-disabled viewers complete access and the possibility to see the displayed art work at the same time.

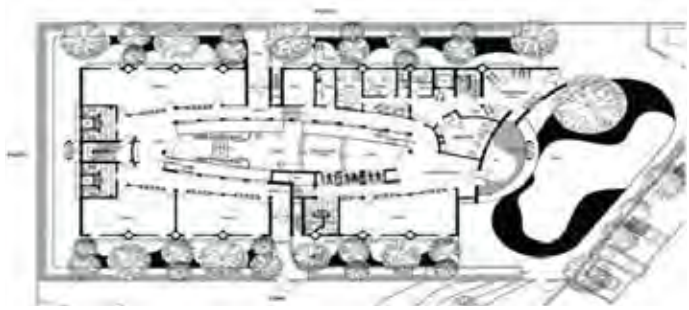
To share an Indian example, The Disha Resource Centre for Children with Multiple Disabilities at Jaipur, designed by Architect Ashok Lall, is also a very good example of an environment- and energy-efficient building as well as a physically accessible multi-storeyed building. A continuous ramp in the core of the building provides access to all floors to all types of users in an aesthetically pleasing and non-discriminatory manner, adding great character to the building.

No cities exist that are fully Barrier-Free; however, many cities around the world are actively working towards the idea of a disabled-friendly or rather inclusive city, like Barcelona, Singapore, Berlin, Wellington, Cardiff, Milan, and Denmark, to name a few. A SMART CITY cannot be created unless it is designed as a CITY FOR ALL that keeps inclusion and



The Disabled People's Organisations Denmark (DPOD) office building
(Source: https://www.archdaily.com/495736/house-of-disable-people-s-organization-cubo-force4 net)

Guggenheim Museum in New York
(Source: https://www.travelure.in/solomon-r-guggenheim-museum-nyc-maverick-architecture/)



The Disha Resource Centre for Children with Multiple Disabilities at Jaipur
(Source: https://www.ashokbhallarchitects.com/DISHA-SCHOOL-Jaipur)

Nirman Bhavan, CPWD, Akurdi, Pune.
(Source: Author)

diversity at the heart of its planning and recognises the growing use of technology to enhance the lives of older and disabled people.

One of the recently completed retrofitting projects for improving Universal Access to the building is the CPWD's Nirman Bhavan at Akurdi, where we incorporated ramps, handrails, a tactile guiding path throughout the building and premises, accessible toilets, accessible lifts, and Universal signage design in the existing condition without any structural modification.

However, this consideration usually remains a general idea, is hardly taught in the schools of architecture, and is minimally practised by professional architects. Architectural education and practice, even today, are apathetic to issues of disability and diversity.

As per the recent edition of the National Building Code 2016 and the Rights for Persons with Disabilities Act 2016, it is mandatory to make any new building or facility Universally accessible, and non-compliance is liable to action on account of discrimination in the built environment.

Architectural institutions must challenge the stereotypical mode of thinking about design for disability as 'dull, non-creative, and restricting', to find solutions that address environmental problems, accommodate a wide range of needs to address diversity, and facilitate social and environmental inclusion. We can then change the way the built environment is designed and remove environmental barriers responsible for discrimination and environmental oppression.

The need of the hour is to upgrade our knowledge and practise of construction by understanding the conceptual and technical aspects of Accessibility and Universal Design and creating more and more examples of Inclusive buildings and public infrastructure to make a better, happier, more liveable, and more inclusive world. A world for ALL!

"The problem is not how to wipe out all differences [in human capabilities], but how to unite with all differences intact." Shri. Rabindranath Tagore

Dr. Kavita Murugkar is a distinguished architect, educator, and Universal Design evangelist with an impressive 20-year track record in both education and practise. Her unwavering passion lies in Disability-Inclusive development and rights, specialising in the fields of diversity, inclusion, and accessibility. Throughout her career, she has relentlessly advocated for people-centric and inclusive design policies, conducted groundbreaking research, and fostered inclusive practises in the design industry and various professional platforms in India. With a doctorate at the intersection of disability, architecture, and built environments, Dr. Murugkar currently serves as the Principal of Bharati Vidyapeeth College of Architecture in Pune.
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NATURAL LIGHT IN ARCHITECTURE
A CHALLENGE AND AN OPPORTUNITY

Ar. Aman Aggarwal

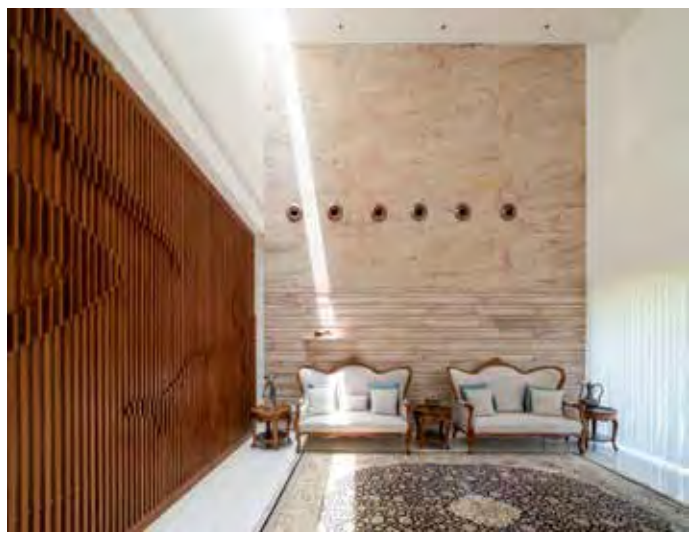
"The history of architecture is the history of the struggle for light."
–Le Corbusier

Light is an ephemeral yet crucial ingredient that shapes architecture. It holds the power to drastically change perceptions based on its source and quality, among other characteristics. The identity of a space is often inextricably linked to how much and in what manner it receives natural light, thereby enhancing or diminishing the spatial experience.

The apertures in a building can be manipulated to modulate natural light in order to highlight material texture, animate the interiors, and affect moods. We can understand the correlation between natural light and architecture through the following five channels.

Light Builds Time.
The size, direction, and positioning of the fenestrations in a building determine when and how we receive 'solid light', or direct natural light. If entering through a regular 5-feet high glazed window, it will look quite different than through a patterned *jaali.* The way in which these light patterns move within a space is in tune with the time of day, helping us perceive the passage of time. The oculus at the centre of the dome of the Pantheon in Rome hits a distinct recess among the many recesses carved into the interior walls as the day progresses and the sun moves in the sky.

Along with time, light is able to make us experience the season as well. Daylight in the winter has a different quality than that of the summer sun. Similarly, natural light in one corner of the world will feel different than in another, pertaining to the specific atmospheric conditions that it passes through.



Residence 414 | Light Builds Time *(Source: Nakul Jain)*

Office 543 | Light Defies Scale *(Source: Javier Callejas Sevilla)*

Light Defies Scale.

Architecture has the peculiar quality of being perceived differently under varying lighting conditions. Designers can use this to their advantage, as flooding a space with diffused natural light while controlling the inlet of direct light from all directions can make it look significantly bigger. Conversely, the absence of light will make the same space seem smaller in scale.

Imagine standing inside a life-sized frosted glass box placed directly under the sun. While most people can gauge the approximate size of a space they are in, under these conditions, surrounded solely and completely by diffused light, one would find it difficult to determine its exact scale. This is how light defies scale.

Light Becomes Material.

When we are working with light in architecture, we have the opportunity to mould it to our liking using building materials and apertures. However, light itself becomes material in certain cases. A ray of sunlight passing through a crack in the door of a silent, dark room turns into an ethereal curtain as well as a dynamic flooring pattern.

Residence 145 | Light Becomes Material *(Source: Javier Callejas Sevilla)*

In the inner sanctum of the Matri Mandir in Auroville, which is closed on all sides except for a small circular opening in the ceiling, a column of solid light falls through to the crystal globe standing directly beneath, serving as the singular source of light in the entire chamber.

Residence 1065 | Light Defines Form *(Source: Javier Callejas Sevilla)*

Student Hostel | Light Creates Experiences *(Source: Javier Callejas Sevilla)*

Light Defines Form.
The light that falls directly on a curved wall tells us that it is, in fact, curved. Shadows are what tell us that a dome is a dome. How shadows fall on or inside a building can affect our perception of the shape of the built mass.

For example, the Indian Parliament building in New Delhi has a cylindrical form, yet the layperson viewing it from a distance knows this not because he or she has seen its architectural floor plan, but due to the building's own rhythmically receding shadows. Another great example is that of Japanese architect Tadao Ando's architecture, which speaks volumes of the power of light and shadow through its minimal materiality.

Light Creates Experiences.
Our spatial experiences are strongly influenced by the kind of light that is allowed to enter the space. Bearing this in mind, experiential lighting can be designed based on the requirements or mood that we wish to create. Skylights are an effective tool to incorporate in order to achieve this. Its depth-to-width proportions determine how much indirect light can be received indoors. More solid, direct light will enter if it is too wide, and more diffused light will enter if it is not. Le Corbusier's buildings use sun breakers and a lot of openings that are deep enough to create this kind of effect.

The edges of a fenestration refract sharp rays into softer, more diffused daylight, while smooth, white surfaces reflect that light around the room. Direct light is able to enter only around noon every day. This effect is enhanced further if the light punctures through the roof instead of the walls, as refraction is made easier and the roof can be made to appear floating.

Office 543, located in Mohali on a narrow plot that is closed on two sides, was designed by Charged Voids using these principles. It allows light into its small 140 square-metre footprint through a skylight, a light well, and two courtyards, drastically reducing the need for artificial light during the day. In the student hostel for the Chandigarh Group of Colleges, we designed a very simple triangular layout with criss-crossing bridges running across its central atrium. The daylight filtering from the skylights penetrates almost four floors into the eight-storeyed structure. The lower floors are lit through the double-height glazing surrounding them, which then reflects the light back up through the courtyard. The juxtaposition of these two light sources, and of light and darkness, lends the hostel a dramatic visual effect.

The function of any given space determines which factor of light is more important. For instance, in a house, we don't always want light to become a material. A beam of 'solid' light coming down on one's head in the living room—a space meant for relaxation—is going to be quite uncomfortable. It also depends on how long one plans on occupying the space. In a museum, the lighting is designed to be focused and dramatic. The same experience cannot be designed for a workspace that is used for different activities and occupied for longer by a given group of people.

In a residence located in a typical urban environment, the openings in the common spaces must vary from those in the private spaces. A double-height window and a horizontal window with a skylight will create completely different relations to the exterior. Similarly, light from a verandah will have a different effect on the interior than that coming directly through a window that has no sunshade or is bounded by vertical louvres. The decision-making process for introducing natural light to any space should vary according to the function, the interior materials, and the experience the architect wants to create for its occupants. All of this is ultimately determined by an analysis of light within its context.

Aman Aggarwal's design philosophy has been shaped by his training under the late Pritzker Prize winner BV Doshi and Le Corbusier's modernist principles. Through his practise at Charged Voids, he seeks to infuse a spiritual character into built forms through knowledge of the elements and responses to climate.
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An annual initiative by AVANI Institute of Design, Kerala, to specifically encourage students from architecture and design backgrounds to explore critical and exploratory writing.
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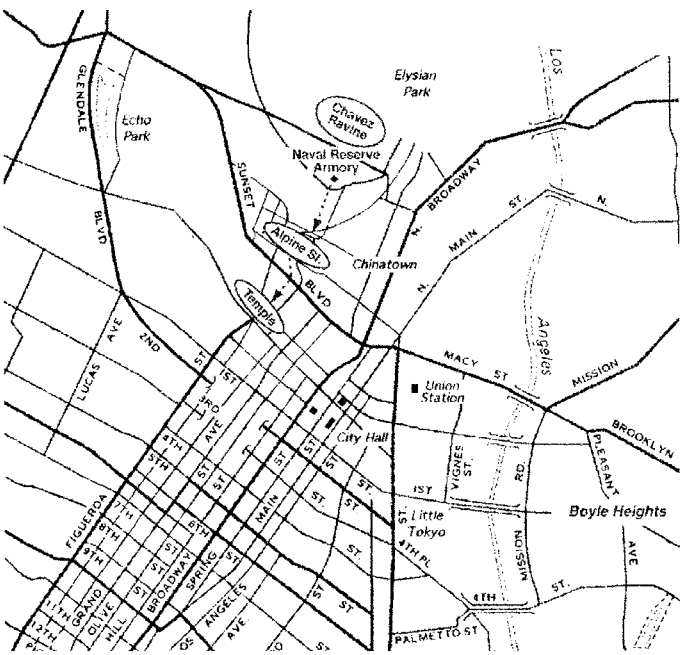
AVANI ESSAY PRIZE 2022
WINNING ENTRY

MANOS DE LOS ÁNGELES

English architect Augustus Welby Northmore Pugin once said, "The History of Architecture is the history of the world," and as workers of the built environment are tasked with some of Los Angeles' most pressing problems like affordable housing, the homeless population, and traffic management, it is the duty of the citizens to look upon their local officials to ensure they are moving in the right direction. Unfortunately, by lack of default, Los Angeles is very inviting with its warm climate and multitude of events and scenery, which in turn makes the city very desirable for wealthy individuals to move into[1]. As Los Angeles has been titled the Entertainment Capital of the World, this influx of wealthy individuals comes in support of this status, which displaces the established communities as a result. More specifically, the large Mexican-American population of Los Angeles, along with other minority groups such as the African-American and Asian populations that make up most of Los Angeles' demographic makeup. When looking keenly at the entities of Los Angeles and their geographical placement and styles they employ, it's hard not to notice a common theme amongst them. That being said, it is, a popular city that reflects its status in its exclusive forms, ever growing skyline, and cyclic traffic flows. It is through architectural styles and intent analysis that this theme is evident.

In finding a historical event that has had a profound impact on the built environment, the roots of the current gentrification process in Los Angeles demonstrate an era where the displacement of the established Mexican-Americans (Angelenos) was justified by both World War II patriotism and systemic racism in efforts to become the Entertainment Capital of the World. In the mid-and late 1930s, the style of the zoot suit became a sense of identity amongst people of colour across the nation. Cab Calloway utilised his platform as an African-American songwriter and performer to his advantage by wearing this style of suit in his performances. This movement created a sense of identity among the minorities of the nation as it differed from the modern style that was often worn at the time. However, a massive stigma came along with this style as the Los Angeles Police Department, along with California Governor Culbert Olson, associated the style with being worn exclusively by juvenile delinquents, low-lives, and gang members[2]. In December 1941, a patriotic atmosphere was injected into the nation as the United States declared war on Japan in retaliation for the bombing of Pearl Harbour, thus entering World War II. This had a profound impact on the country as textiles were put to rationing in efforts to solely support the war. As the war progressed, the City Planners of the Los Angeles zone disregarded the space and social geography of the already-established Mexican-American neighbourhoods on Figueroa Street by implementing a million dollar training school for the all-white Navy named the National Reserve Armoury[3]. This not only allowed for an abrupt injection of white sailors into well-established Latinx communities, but the juxtaposition of the two groups in the same neighbourhoods exposed Angeleno families to the reckless behaviour of off-duty sailors. Along Figueroa lay the Mexican-American business owners and workers of Chavez Ravine, Alpine Street, and Temple Street. During off-duty hours, the sailors would often act recklessly and utilise both their race and entitlement as servicemen to their advantage by demanding free goods from these businesses on "Calle Principal", a term used by the Angelenos for Main Street.



Neighbourhoods of downtown Los Angeles, 1943. Arrows indicate the path along Figueroa Boulevard that sailors at the Naval Reserve Armoury took to reach downtown Los Angeles. *(Source: Adapted by Eduardo Obregón Pagán and Tanya Salcedo from a 1946 street map by Thomas Brothers)*

The Great Wall of Los Angeles *(Source: Judy Baca)*

Footnotes
[1] Chapple, K., & Thomas, T., and Zuk, M. (2021). Urban Displacement Project website. Berkeley, CA: Urban Displacement Project
[2] George Coroian, Zoot Suit Riots: American History (Britannica, 2013)
[3] Eduardo Obregón Pagán, Los Angeles Geopolitics and the Zoot Suit Riot, 1943 (Cambridge University Press, 2000), p. 224

Los Angeles' 6th Street Viaduct Grand Opening, July 9, 2022 *(Source: Author)*

However, gross abuse perpetrated by white sailors was not the only means through which Latinx Angelenos were disparaged, but also through media portrayal. The *Los Angeles Times* released an article titled "Language Marks Difference" which claimed that "Juvenile files repeatedly show that a language variance in the home— where the parents speak no English and cling to past culture—is a serious factor of delinquency. Parents in such a home lack control over their offspring". [4] The tensions were growing rapidly in Los Angeles as the Angelenos were resisting the patriotic and racist behaviour of the white sailors and the media's portrayal. Then, on June 3, 1941, a weeklong episode of riots burst throughout the city as the zoot suit was deemed unpatriotic in its "waste of resources". Using this as justification for further displacement, any minorities that were roaming the streets of Los Angeles were attacked by both servicemen and local law enforcement. In response, the City Council of Los Angeles issued a ban on zoot suits on June 9, which completely neglected the racial attacks on the minorities of Los Angeles by both on-duty and off-duty LAPD and servicemen. Moreover, by banning zoot suits, implications that were either never considered or acknowledged included the robbing of Chicanos of their identity by stripping the city of Los Angeles of a fashion piece that was an iconic representation of Angeleno culture. The further marginalisation of Angelenos was brought into reality through both local and federal lawmakers that continue to tailor the needs of the white nuclear family.

On both a local and federal level, laws were being implemented with provisions that served the needs of the typical modern white nuclear American family. The GI Bill of Rights in 1944 produced advertisements such as the one where a white family is stating, "'This is for Us!'" [5]in regards to a modern home that required no down payment for white veterans. The concept behind being a homeowner translated into being a part of the economy by contribution, which cast aside the minorities of the nation, as minorities were disregarded as contributing little to the American economy and were not considered in the vision for the future of America.

Further legislation was passed in the Housing Act of 1949, that justified Los Angeles Mayor Fletcher Brown's plan to build public housing on the Chavez Ravine and in the neighbourhoods around Elysian and Echo Park, as he deemed it an eyesore. [6] Renowned architects Richard Neutra and Robert Alexander were selected to contribute by designing the modernist Elysian Park Heights project[7]. It was then the belief that federally funded housing was a form of communism and a newly elected conservative mayor, that led to the termination of the original housing proposal by former LA mayor Fletcher Brown, making way for the American sports executive Walter O'Malley to purchase the land for the construction of Dodger Stadium. The people that once lived in the Chavez Ravine, were not only forcefully removed in hopes for public housing, but they were also given no reimbursement for the value of their property[8]. Further displacement of the Angelenos occurred as the following interstates were built in East Los Angeles: Santa Ana 5, Hollywood 101, San Bernardino 10, Golden State 5, Santa Monica 10, Long Beach 710, and Pomona 60. All of which made up 19 percent of East Los Angeles' land use. [9]It is at this point of time that the Angelenos that contribute to the large Mexican-American population feel a sense that their backs are against the wall. A lack of respect for where the majority reside is ever present and continues to be an issue in the city, which continues to exclude and reject its roots.

Today, Olvera Street has been said to represent Mexican culture, but it has the artificial look of almost a Disney attraction. The kiosks are jammed in a small aisle of the marketplace in which they sell manufactured souvenirs in the representation of "Los Angeles' past history, almost denoting that Los Angeles is no longer a place for Angelenos and their culture. The location of the marketplace is quite ironic given its close proximity to Los Angeles' Union Station, which is the largest railroad passenger terminal in the Western United States, the Interstate 101 freeway, and Dodger Stadium. All of which relate to Los Angeles' new entertainment culture. If the initial motive of creating Olvera Street was kept true in efforts to preserve Old LA, why is the Financial District labelled as the centre of the city? With its high-end hotels, restaurants, major department stores, and central regional Metro rail system, it is of no coincidence that this lies within the centre of Downtown Los Angeles. Thus making this experience of the Financial District only available to a certain person of status and, more importantly, maintaining Los Angeles' exclusive aura for tourists and visitors to experience. A true representation lies within the inhabitants that originally occupied the land. Meanwhile, Olvera Street, along with

Footnotes

[4] Gene Sherman, Youth Gangs: Leading Cause of Delinquencies (Los Angeles Times, June 2, 1943)

[5] Diane Harris, Magazine Lessons: Publishing the Lexicon of White Domesticity and Rendered Whiteness: Architectural Drawings and Graphics (Minneapolis: University of Minnesota Press, 2013), p. 63

[6] Jordan Mechner, Documentary Chavez Ravine: A Los Angeles Story (PBS 2005)

[7] Dana Cuff, The Provisional City: Los Angeles Stories of Architecture and Urbanism (The MIT Press, Cambridge, Massachusetts, London, England, 1953), p. 56

[8] Gilbert Estrada, If You Build It, They Will Move: The Los Angeles Freeway System and the Displacement of Mexican East Los Angeles, 1944–1972 (University of California Press on behalf of the Historical Society of Southern California, 2005), p. 288

[9] Boyle Heights Community Plan Background Report (Los Angeles: Department of City Planning, 1974), p. 80

Chinatown and Little Tokyo, is often referred to in terms of its presence in famous Hollywood films such as Rush Hour and Showdown in Little Tokyo. It is through both the Financial District and touristy attractions like Olvera Street, Chinatown, and Little Tokyo that we see this parallel between prioritising entertainment at the expense of the livelihood of those in the way. It is through these case studies, that the displacement of the well-established Angelenos, along with their stripping of ethnic identity, is justified and legitimised by patriotism, racism, and federal and local lawmakers.

On the topic of Los Angeles being the mecca of entertainment, it can be seen through current day gentrification processes that it is also a city of exclusion. During the design process of Loyola Law School, located on the western edge of Downtown Los Angeles and within the largest Central-American barrio in the United States, Frank Gehry found himself infatuated with designing a school that was unwelcoming and fortress like[10]. Gehry purposefully chose to steer away from designing a school that was open to the surrounding community, which happened to be a Central-American barrio[11]. It is almost as if Frank Gehry indirectly rejects the community that surrounds the school by creating an exclusive community within. This same mentality is also seen in Los Angeles' Cathedral of Our Lady of the Angels and its decision to hire a Spanish architect by the name of Rafael Mone to design this postmodern, deconstructive, contemporary, and modern Catholic church. All styles of which reflect an unwelcoming and unnerving presence for those that wish to practise their Catholic faith, especially the Mexican-American community where Catholicism is the dominant faith[12]. It's quite contradictory that the Cathedral embraces this design as opposed to an open facade that is of better geographical placement for all to access. More importantly, the Cathedral is designed in a way that is very condescending in its enormous size and geographical placement off the side of the Santa Ana freeway for commuters to look up to while in rush hour. It can be assumed that the Church sided with Los Angeles' exclusive aura instead of erecting a place of pure communal space and worship. On a more recent note, the LA City Council passed a ban on homeless encampments near schools and daycares in efforts to "protect safe passage to schools"[13]. Ironically, Councilman Gil Cedillo recognises the implications of his vote by stating, "Those who have argued that this doesn't solve homelessness and doesn't move us forward in this area are absolutely right—but not on point". The implications of this new ban are quite significant and quite hidden from the public, as schools and daycares make up nearly twenty percent of the city and, in some LA City Council Districts, nearly fifty percent[14]. Justified by children's safety, the city has yet to establish who will enforce and maintain this 41.18 amendment, which puts stress on school administration. Regardless of what the City of Los Angeles considers the main priority, they clearly have a motive and standard they must fulfil, but at the expense of those that continue to be evicted and deprived of the city they continue to uphold.

In their efforts to stand their ground, justifiably so, the minority Angelenos that were once present along Figueroa Street in the Chavez Ravine, Alpine Street, and Temple Street empowered a new generation of Mexican-Americans that recognised displacement and injustice by way of art. Through pieces such as the Great Wall of Los Angeles, 'We are not a minority!' mural on Olympic Boulevard, the Bienvenidos sign in East Los Angeles, the mariachi tower in Boyle Heights, and even graffiti pieces, it is of no surprise that the people that not only inhabit Los Angeles, but also keep California afloat with their hard work, in all societal classes, are making themselves present. A sense of unity and patriotism that is fueled not by any sort of racism or entitlement but rather by a genuine population of hard workers that continue to contribute to the well-renowned experience of Los Angeles.

Food vending, which has recently been made nearly impossible to receive permits by way of local legislation[15]is part of this experience. Another form of cultural identity that was put on display at the grand opening of Michael Maltzan's 6th Street Viaduct Project was the presence of the Mexican-American community resembling the culture of Los Angeles. Through a lowrider display, which is also deemed illegal according to California Vehicle Code 2400816 thousands filled the bridge to enjoy Mexican cuisine, artwork, and live music.

To further prove the point of legislation being used as a tool, the use of diacritical marks in government documents such as birth certificates has been deemed illegal by way of California Proposition 63. [17] Hence, stripping the ethnic background of individuals that are of Latin descent. It can be deduced that
There is this common theme of using legislation to undermine the cultural identity of Mexican Americans in Los Angeles. So much so, it is justifying the current gentrification process in these largely populated Mexican-American neighbourhoods. At what point will local and federal entities recognise the original presence of Mexican-Americans instead of pushing them outward in surrounding counties? At what point will local and federal entities acknowledge that part of the experience of Los Angeles' culture includes its original inhabitants and not the exclusive agenda it portrays? And more importantly, what can awareness of gentrification mean for designing the future of Los Angeles for the current and aspiring young workers of the built environment?

Footnotes

[10] A major disappointment of Mark Foster's recent biography of Kaiser (Henry J. Kaiser: Builder in the Modern America West, Austin 1989)
[11] Mike Davis, City of Quartz: Excavating the Future in Los Angeles (Verso 1990), p.239
[12] Juan Carlos Dinoso, On religion, Mexicans are more Catholic and often more traditional than Mexican Americans (Pew Research Centre 2014).
[13] Soumya Karlamangla, Los Angeles Bans Encampments Near Schools (New York Times, August 10, 2022)
[14] Kenneth Mejia, Map of 41.18 By-Resolution Areas (https://4118.mejiaforcontroller.com)
[15] Zoie Matthew, The Fight for L.A.'s Street Food Vendors (Eater 2022)
[16] California Vehicle Code Section 24008 (Amended by Stats. Ch. 462, Sec. 3) CA Veh Code § 24008 (2017)
[17] California Proposition 63, English is the Official Language Amendment (1986)

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This essay was inspired from his time at UCLA Extension studying Architectural History.
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AVANI ESSAY PRIZE 2022
SHORTLISTED ENTRY

COMMUNITY AS A METHOD
DEMONSTRATION OF ITS APPLICATION TO REVIVE KALLAI

Kallai today *(Source: Author)*

Small efforts made by the community *(Source: Author)*

Kallai is a small town on the banks of the Kallai River known for its timber mills. With about 300 large and small sawmills, it was referred to as the "heart of the timber market" in the late nineteenth and early twentieth centuries. This boom in the timber business was supported by the Kallai River. The demand for high-quality timber expanded as a result of the building of Indian railways and the requirement for building and repairing vessels. The river was utilised to carry wood to the mills and to season the timber since the saline river water gave the wood an extra boost of strength. The Kallai River not only supported the timber industry but also the fishing community that lived downstream. The people in Kallai, be it the people working in the timber industry or the fishing community, both depended on the Kallai river for a living. There is no Kallai without the Kallai River.

Today, Kallai and the river that defines Kallai are slowly dying. Kallai kept changing each time I went there. As part of my Semester Six studio, I was walking through the streets of Kallai for the first time, and each time I caught a glimpse of the Kallai river from between two buildings, I felt that Kallai was the most beautiful place that I had seen. But as I got closer to the river, things started changing. Kallai is a very beautiful place, yet it is not clean. Each time I went there, mills were getting converted into godowns. The people of Kallai are now in turmoil due to a lack of income and jobs. Even though the communities of Kallai are in great tension, they have tried to make small efforts to revive Kallai by transforming places where waste used to gather into interactive places and through landscaping. The only way to save Kallai and its community is through the rejuvenation of the Kallai River.

The enactment of the Land Ceiling Act, along with the degradation of the river due to pollutants produced by industries, households, and other wastes, has led to the downfall of good-quality timber and aquatic life. The people are unable to explore the water as the pollutants are causing infections and skin diseases, and there are no more fish left for the fishing industry. The Kallai, which once offered a living to over 20,000 workers, is now unable to support the communities and generate a stable income. Here, the growth of Kallai and the communities are interdependent, both requiring the Kallai River for their survival. No doubt mankind itself is responsible for this great havoc, and it is important to include the community of Kallai in the restoration of the river as they are the ones who depend on it for their livelihood. By involving them, the quality of the Kallai River as well as improvements in the quality of life of the Kallai community will go hand in hand. The Chipko movement and many other movements have proven communities as a method to be successful and effective. One such example where community played a part in bringing up an area was Uravu, a community in Wayanad. Here, Uravu has been partnering with Vythiri Resorts to lead responsible tourist activities. The aim was to involve the community and local resources in tourism initiatives, thereby contributing to sustainability. This includes the preparation of food, the sharing of traditional home-made meals by the local women, and making sure they are a huge part of the profit they produce. Also making arrangements to visit local farms for them to interact with the tourists as well as provide a platform to sell their products.

The first step was to Identify the different types of waste, their sources, and which category each waste falls under. While dealing with waste, the question that occurred was, What is a waste? And for whom is it waste? That is, even though the waste produced by a fish is not useful for them, for us humans, the fish waste can be used for aquaponics. From this next set of questions arises the question of whether the wastes that were found in the Kallai River are recyclable. Or should they be discarded? Or can it be used to revive Kallai? All these questions helped introduce me to different discoveries where waste materials were collected and used for the production of other products and to different technologies to collect waste from water. A few interesting things included how crude oil generated from plastic waste could replace fossil fuels and meet energy needs without generating much pollution. Here, plastic was collected from different communities and then brought to the plant, where it was made into crude oil and given to the poor who couldn't afford gas cylinders. The interceptor is basically a machine that is used to clear floating waste from water bodies. They basically have conveyor belts that are used to scoop out the floating waste and offload it wherever required.

All these were just ways to get rid of plastic or solid waste, but the question of how to remove or stop microbial activities due to decay, etc. still remains. This is where collaborations within different organisms came into play. After studying and identifying the different flora and fauna in and around Kallai, the different agents for collaboration were ready. Taking the primary collaborators as clams, humans, Tilapia, and machines, followed by mangroves, crabs, and other shell creators as secondary collaborators. As the first step for the collaboration to happen, clam culture and tilapia culture would be taught to the Kallai community. The reason for choosing Clams as collaborators is because these creatures serve as tiny water filtration systems, constantly sieving the water around them in their hunt for a meal of bacteria or algae. As they filter water, the bivalves' tissues

absorb some of the chemicals and pathogens that are present in things like herbicides, pharmaceuticals, and flame retardants and thus clean the water. A study by Scape Architects shows how oysters could be used as a solution to reduce the increase in water level, pollution, etc. happening in New York. Apart from all these, it also helped in bringing back the old reef that was now destroyed. According to their research, once the cultivation of clams exceeds a certain limit, the Kallai community can even sell the extra clams in the market. The next collaborator, the tilapia, is highly recommended for aquaponics. Machines that are also collaborators are purely used to collect plastic and solid waste, as mentioned earlier.

The secondary collaborators start collaborating only after the primary collaborators come into action. With time, once the water gets purified due to the primary collaborators and with the help of a few other organisms, along with some design strategies, it can help in the growth of mangroves. Crabs, which are one of the commonly seen organisms in Kallai, help bring the organic matter to the surfaces and add oxygen-rich water to the mud, which can contribute to the growth of mangroves. In turn, the crabs feed on the leaves and seedlings of mangroves. Constructing structures at a 45-degree angle helps reduce the flow of water, which in turn causes the sediments to settle near the banks, helping the mangroves. This mechanism is evident in one of the mangrove recovery projects in Thailand, where the sea, shoreline, and inland area were divided into three small zones in order to create a massive intervention. The purpose of the first zone was to reduce the speed of the water so that the sediments could settle on the shore. For this, flotation breakers were used where fish culture happened. Lightweight structures were used instead of heavy foundations for construction so that they could be removed after 30 years once the mangroves grew back. Zone two had bamboo structures that could again trap sediments for the afforestation of mangroves and also act as clam embryo shelters. The other reason for the use of Bamboo is that, since it is biodegradable, it will decompose in the next 30 years. While zone two was more about afforestation, zone three concentrated on reforestation. Along with this, Zone 3 also had a crab embryo shelter as well as a watchtower. Bridges, view decks, etc. were provided so that people could come and visit the progress happening, and with time, the mangrove would cover the area completely.

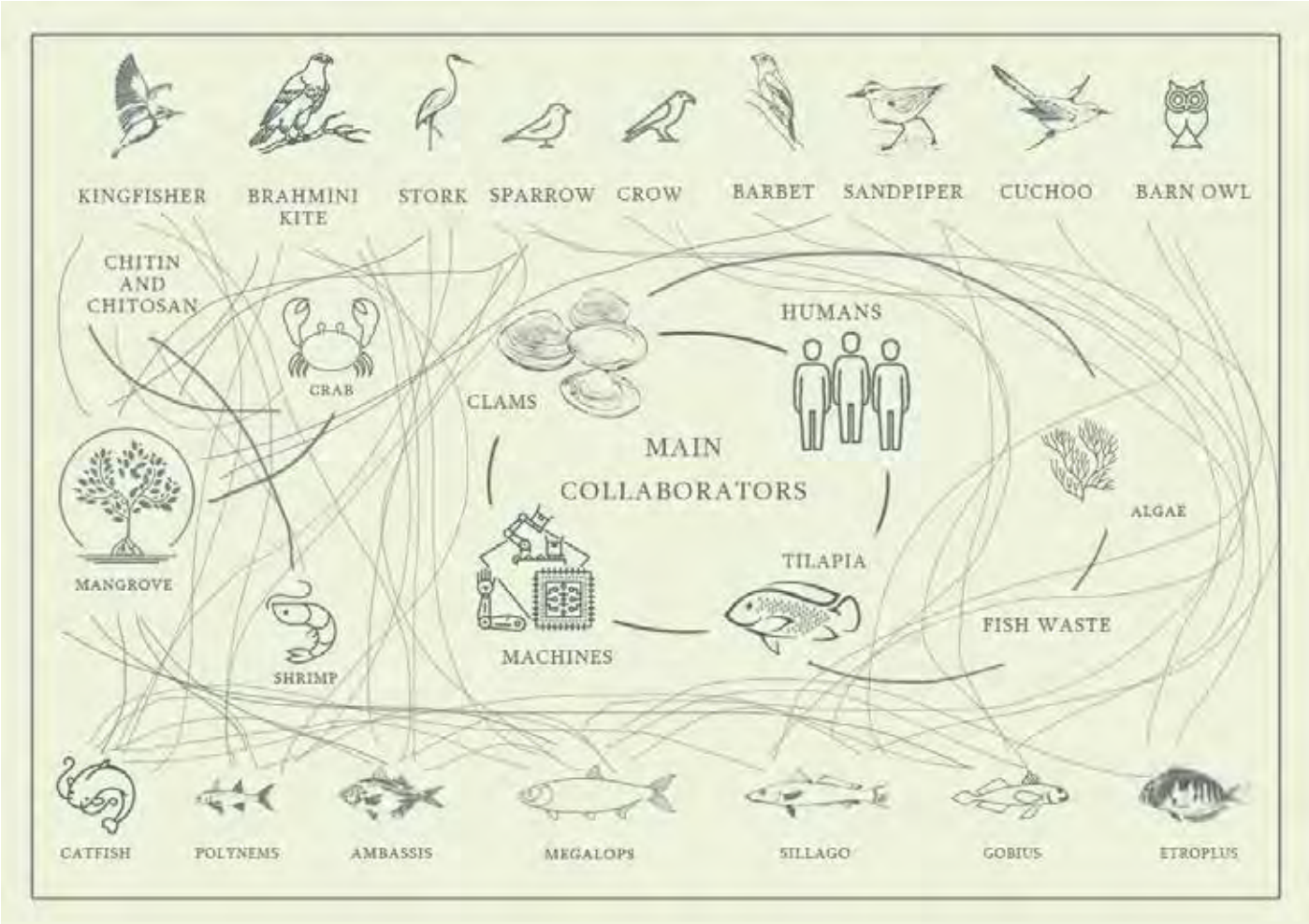
After coming up with the collaborators, the next challenge was to make use of the byproducts, or, in other words, deal with the potential outcomes of these collaborators. A major example was fish culture, where the waste produced by the fish can cause an increase in the growth of algae in the river. The algae that is produced could be used to feed the clams. Here, one species produces food for the other. Apart from feeding the clams, algae can also be used to generate power. One of the studies shows how algae growing in water can be used as facades and, when exposed to sunlight, produce energy. They absorb sunlight and carbon dioxide to produce heat that could be used for heating purposes and biomass that could be used to feed the clams or even produce medicines.

These collaborations not only help in the revival of the Kallai River but also create a source of income for the communities. As the river gets purified, the fish that were once present in the Kallai River will start coming back, and the mangroves will start acting as a home for both these fish as well as a large variety of bird species that come to eat these fish, and the ecosystem of Kallai will return to its original state.

Ocean Cleanup *(Source: Author)*

The initial idea was to have a single intervention rather than several small interventions along the banks of the river so that money could be invested in just one efficient structure. It started off by having a single moving module that could go all around Kallai, collecting and disposing of waste, along with a bridge that converts Kinetic energy into mechanical energy when people walk on it. This mechanical energy could then be used by seabins, which are basically trash cans placed in water bodies. This takes in water, filters the debris, and finally pumps the water back into the river. But the idea of a moving structure raised a lot of drawbacks with the introduction of collaborators and in terms of the involvement of communities. All these thoughts gave rise to a design where the building itself becomes a statement, or, in other words, the structure came up as a reaction against the current situation of Kallai and the Kallai River.

The structure is made up of many different components, of which the important stretch was across the water, connecting two places and acting like a bridge. The stretch not only acted as a bridge but also as an artificial reef for the clams to grow on. The community would be made in charge of looking after the entire area, and they would be headed by other organisations in order to get an idea of how the collaborations happen and how the whole structure works. The reason it was stretched all across the river was so that it could act as a barrier, not allowing the floating waste to reach the sea. By barrier, it doesn't mean a structure that goes completely down till it reaches the river bed, interrupting the flow of the river, but a structure that is at least 5 metres below the water level with small openings on it along the water level in order to collect mainly the floating plastic waste. This stretch, along with the above-mentioned purposes, also acts as an indicator of the amount of waste collected each day. As a result of waste being collected, the structure slowly starts increasing its height, and at the end of the day, the increased height of the structure in relation to the water level is noted to determine how much waste was generated that day. This waste that is collected by the structure then becomes an installation that is made for the people visiting the area to see and understand the harm they do to the rivers. Along with the installation, the stretch also has aquaponics, the conversion of algae into energy, clam culture, and two pools for people to explore the water and see life under water. The concept of having a pool came from the idea of a plus pool, where the



Main collaborators *(Source: Author)*

idea is to place a pool in a river in New York where the walls of the pool will filter the river water entering the pool and is again purified before pumping out into the river. The structure is also constructed at such an angle that the flow of water is reduced and sediments get deposited on the banks, allowing the mangroves to grow.

Apart from the main structure, there is another substructure that is detachable and acts as a boat that can be used to carry people from the beach to the site and vice versa. The water that passes the barrier is essentially filtered and pure, and the mangroves will further enhance its beauty with the deposition of sediments. As a result, this length from the barrier to the beach may also serve as a tourist attraction. This doesn't mean that the stretch between the barrier and the beach is the only stretch that is going to be cleaned. Instead, it means this part will recover first, as only clean, pollution-free water is allowed to pass through this stretch as it lies after the barrier. Since there is just this one intervention throughout the entire river, the other stretch will take time to heal.

Based on the above facts, it is concluded that all the above factors provide the communities of Kallai with tremendous opportunities. Tilapia culture used for aquaponics and clam culture used for the purification of water after they exceed a certain amount could be used by the community to sell in the market. This, along with an increase in aquatic life, can help the fishing community have a stable income. Involving and training the other community, that is, the people who were involved in the wood industry, tourism, cultivation of fruits and vegetables through aquaponics, etc., can ensure a solid income for them as well. This way, we can ensure the survival of both Kallai and its community.

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Ann Brigit Jose is a B. Arch. student at the Avani Institute of Design, Kerala. She believes that there is no right and wrong in design and that everything is grey. Through this essay, she wants to convey what Kallai was, is, and could be on the basis of the studies she did in her Semester 06 Architectural Design Studio. Her explorations aim at redefining the idea of a community beyond the human realm.
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THE SOCIAL ART OF ARCHITECTURE

The sathram, the centre of the settlement *(Source: Author)*

In Kavakkudi, a small tribal hamlet deep inside the picturesque sandal forests of Marayoor, is a community that over the years has stayed largely isolated and has practices and traditions that have survived several hundreds of years. The *'Mooppan',* the elder of the community talks us through the practices that give the tribe of *'Muthuvans'* their identity. As we talk to the elders about the building practices on these steep slopes, we are surprised by a practise that is common to the tribal population of the region.

In this little *'Kudi'* the act of building is a social activity. The community comes together to construct a new house when necessary. There are no architects, no designers, the act of building is the result of the collaboration of an entire community of people. Here the established and the archetypal is still favoured over individualistic concerns.

The architecture of the *Kudi* adapts to the changing needs and professions of the community that have changed gradually over time. In a symbiotic relationship, the architecture responds to the processes of social production while the while at the same time it moulds the behaviour of the people. The architecture can be seen as the reflection of the various layers of identity that define the community.

The *'Sathram'* where the traditional knowledge and wisdom is passed down to the young men of the *Kudi,* forms the heart of the settlement around which the settlement is built. An open ground that each person of the community takes a part in cleaning is where the festivities are held. The *'Kuliveedu'* where women have to stay during menstruation, reflects their religious and superstitious beliefs. The temple is situated at the topmost terrace, with a view of the whole settlement. We see in all these instances the deep connection between the people and the place. Made by the people and for the people, the settlement captures the spirit of the place.

In the neighbouring hamlet however is an interesting addition. Right at the entrance of the settlement is a new community hall built by the government that remains unused two years after its completion. As the authorities reluctantly admit, the hall, built without any collaboration with the community stands as an example of what can go wrong if we use a cookie-cutter approach in contexts as unique and varied as ours.

The old and the new *(Source: Author)*

The search for integrity

Without collaboration we deny people of the agency to shape the environment around them, and as we build 'for' and not 'with' the community we inevitably damage the sense of harmony and integrity in these settlements. As we look to learn from our old cities, towns and traditional settlements to attempt and capture this sense of integrity that architecture today desperately needs, we find that a major shift has taken place in how we create places.

So how did the older generations build? Our everyday surroundings were not built by any one person. Towns, neighbourhoods, streets, even most houses were rarely designed by architects. Most were never designed at all. They just 'happened'. They 'happened' – but not through happenstance. The form and character of these spaces was the result of pressures: economic, social and ecological pressures; cultural, geographic and climatic ones. This gave places built before the era of conscious design an integrity that today we can only struggle to achieve. It also integrated them perfectly with the way of life of their day. This is also the reason why these spaces can no longer cater to contemporary needs, they simply aren't matched to life today. Thus, what is needed is not to revert to the past, or to get lost in nostalgia but to create new approaches relevant to where we are today. This brings us to collaboration in today's day and age.

Demystify design

The key to successful collaboration in architecture is in understanding that it is not a technology or a set of rules but rather a way of thinking. Collaboration is not a process that can be reduced to a set system; it is more of an attitude that needs to be inculcated. It begins with every participant acknowledging that each of the others brings something of value and that their combined intelligence is more likely to deliver positive results than working in isolated silos. This can be challenging for architects, since from the very start a culture of pride in individual authorship is deeply ingrained in the profession. This culture of pride and individualistic authorship has often aided in mystifying the process of design. Mystification is the expert's means to acquire power over others, to subdue the sense of design and the sense of space that is present within us all.

"This dominance of individual wishes makes design effectively a-social, occasionally even anti-social."
-Christopher Day

Thus to make architecture more diverse and inclusive we need to demystify design. As we realise the need to move away from the age of 'starchitects' and spectacle buildings, collaboration becomes essential at every step, ranging from the participation of the community to the collaboration between diverse fields. At the root of collaboration is the belief that there is an innate architect in us all.

"But whereas language is culturally and nationally specific, it seems that the rudiments of architecture are universal, common to all people (and animals too). At its rudimentary level, architecture is a corollary of being in the world."
-Simon Unwin

Architecture – place-making – is a language to itself. We all have a subconscious fluency in that language, and an innate capacity for it. As children we deal with the world intuitively but we also learn from what we experience. As we grow older this aspect of our being is ignored as our education seldom makes use of our place-making abilities. In his detailed study of Children's Experience of Place (1979), Roger Hart observed that often children took more pleasure in the construction of dens (forts) than in their use; i.e. that the experience and challenges of making were of more value to the children than having. This talks not just of the inherent potential in people to create spaces but also that they can derive a sense of pleasure or satisfaction from the act of shaping their surroundings.

What can collaboration do?

Like the innate ability to create spaces is the ability to understand at the deepest level, one's own place. 'Our place', the place where we live – a place laden with memories, associations, hopes, even family history, has layers of meaning beyond the grasp of an outsider. The only way to comprehend the layers of meaning that constitute the spirit of the place is through the people that already live there. The knowledge they hold is invaluable, both for living in places and for forming them. The vitality and honesty that that this knowledge brings to the process of place making can never be delivered by rational and conscious design.

For the people who share such a deep connection with the place, dealing with change can be a sensitive issue. And when these forces of change stir up feelings of powerlessness within the community, it can breed feelings of disappointment and resentment. It can cause people to feel dis-empowered, de-valued and of no consequence. When people live in places they don't feel connected to, they don't feel their value confirmed by the places around them and consequently they don't value the spaces around them. Such places attract abuse – starting with litter, leading up to vandalism and crime.

"Places that don't respond to our individual actions – because they're too inflexibly controlled, too big, too traffic dominated, too geometrically dominating, of too unalterable materials, give a clear message that the individuals who live and work there don't matter."
-Christopher Day

Collaboration depends upon listening to everybody's contribution. When we are fully heard, we are accorded value. When we are part of the process, our sense of cultural, individual and community worth can blossom – in our own, as well as others' eyes. Places we have shaped ourselves, we feel responsible for. For communities in decline, the consensus

design process can initiate a renaissance. This won't be artificially dependent on one policy, one source of money, one person. But being self-fuelled, it can be independent of policy changes and bureaucratic delays. Driven by the living pressures from within the community such a renaissance can be the key to creating more robust and socially sustainable places. This brings us to how collaboration can have a role to play in ecological sustainability as well.

Collaboration with nature

The dynamic between the natural environment and the built environment has been subject to a lot of flux over the years. Earlier, the relationship with nature was based on a combination of awe, fear and pragmatic necessity. You could work with her and survive, even flourish, or oppose her and founder. Sustainability was not something that had to be grafted on in the later stages of design. However, this changed with the power of modern technology and the attitude that came with it. We now can, and routinely do, overcome nature. But overcoming is scarcely a recipe for harmony.

A key aspect of collaboration is the foundation of respect; respect for what is already there, for what wants to be there, for the people involved. Collaboration with nature means to collaborate with each of the elements, to understand how each aspect contributes to the whole. Recognize sunlight as not just for light and heat but also to warm the soul. Likewise walls not just to protect and separate but also to anchor and root.; water not just to conserve and clean but also to enliven us while providing a sense of calm; and air not just an issue of pollution, but, particularly through sound and scent, an agent of emotional connection. Once, we can connect the needs of nature with our own, and the needs of place with the needs of our activities there, sustainable design ceases to be an add-on. It becomes the obvious, even inevitable, way to do things.

Reframing processes and reimagining roles

The role of the architect or designer is often not to provide the answer, but to ask the right questions that can bring out the true potential of the community. We should be able to guide the collaborative process forward, and bring the best of all the participants. This however does not mean that the architect just a facilitator and not a participant as well. The process of collaboration demands architectural professional input for its success. The architect guides the participants through the collaborative process. The process starts with defining what the project is about, what the place should say. We define what 'moods' the place should be able to support and consequently the design gestures that can enhance these moods. What are the sequence of spaces or experiences that can further support these 'gestures'? And finally: what materials, textures and colours reinforce these activity-place moods? Through the collaborative process the community attempts to answer these questions together, by keeping aside their own preferences, and working towards creating environmentally appropriate places, which have a positive effect on the health and spirit of their users.

Moving forward, the process of collaboration demands a cultural shift for architects. We need to adapt positively to the needs of those working with us. Cooperative lateral thinking and interdisciplinary engagement becomes essential in any attempt at collaboration. As architects we are trained to think about how what we design sits in the landscape, how it responds to its functional needs, how it frames the view of the outside, of a courtyard and so on.

But can it be about people? The people who build and people for whom it is built?

To resonate, places must nourish the soul; and such places are not architect-designed nor professionally built, but were self-built, designed by amateurs as they went along. What makes them special isn't the complexity of construction or sophisticated aesthetic sensitivity, but the fact that they have been, and continue to be, loved by their occupants.

How does architecture respond to a place? How does architecture matter in the shaping of the future of a community or a place?

Collaboration in architecture presents us an opportunity to talk about the human and spiritual aspect of building in favour of the purely physical elements of building, to think of architecture as not just machines to live in. It can act as a tool to revitalize the relationship between mankind and place making; to help the inhabitants of a place discover what 'wants' to be built by 'listening' to the place in which they live. This gentle response to building through the distillation of ideas, may lead us closer to the secrets of how past generations managed to build places that touch our hearts and strike a chord in our souls. It can equip us to create an architecture through a type of creative social process whose primary concern is the well-being of individuals, place and the wider environment.

What is needed most in architecture today is the very thing that is most needed in life – Integrity. Just as it is in a human being, so integrity is the deepest quality in a building [...] If we succeed, we will have done a great service to our moral nature – the psyche – of our democratic society [...] Stand up for integrity in your building and you stand for integrity not only in the life of those who did the building, but socially a reciprocal relationship is inevitable.

-Frank Lloyd Wright

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AVANI ESSAY PRIZE 2022
SHORTLISTED ENTRY

THE COLLABORATORY: WHERE DESIGN MEETS INNOVATION

" Those who look for the laws of Nature as a support for their new works collaborate with the Creator. Copiers do not collaborate. "
— Antoni Gaudí

Man and Nature: The Beginning of Collaboration
Encapsulated in our little concrete cocoons, the glory of the sun, the changing skies, the moon and the stars, often pass us by, largely unnoticed as we go about our puny lives. But that is where life began, cradled amidst the vast void of the universe, the unfathomable magnanimity of which still perplexes those who have the time. Those of that era, when there was nothing but the sun, the moon and the stars, had found solace in the limitless uncertainties of the vast cosmos.

There were only two entities to begin with, Man and Nature. If we are to write the story from his perspective, then well, Man had only one enemy, Nature. So he went out to befriend the one to defeat. Amidst the dense forest, he placed giant stones as an ode to the enemy, carefully aligning them to the baffling forces of the cosmos. Why? It's hard to tell.

We who read about it in books, say, it's the solstice they wanted to honour. We have formulated theories for their existence, as is our nature now, and if they are any correct, then there is only one inference; that the architects who built the Stonehenge, one of the earliest forms of architecture ever known, went out of their way to forge the earliest most primitive ties of collaboration, one with the Omnipresent.

Collaborate : Together We Labour
The earliest records of the word *collaboration* can be dated to around 1860. It derives from the Latin verb collabōrāre. The prefix col- is a variant of com-, meaning **"together."** At the heart of the word is labour, meaning **"work."**

If the idea of Man collaborating with Nature seems too lofty and far-fetched, then let's get down to the idea of man associating with another of his kind to grasp the working of the Cosmos. Even among those primitive individuals struggling to survive in the wilderness, were people from different walks of life who came together to create the most authentic assimilation of stones. Some studied the skies nights on end, a few more foraged for the perfectly sized rocks. Then there were those who carved the rocks to their desired shapes. Some might have devised ways to erect them thus, and a more distinguished group, as we might today call them the architects, designed their perfectly positioned layout.

The community toiled as one to create what they believed would further empower them and help them thrive in their environment. And when at the end of the day, the midsummer sun shed its first rays of the day into the heart of this esoteric monument, it created a masterpiece out of the moss-clad rocks. The perfect marriage of architecture and astronomy, along with the unfaltering efforts of all artisans, together materialized into a flawless framing for the solstice sun. Had it not been so, the Stonehenge would have simply seemed out of place.

Fig 1.: Stonehenge, a perfect marriage of astronomy and architecture
(Source: www.istockphoto.com/photo/dramatic-sunset-at-stonehenge-horizontal-gm168275835-17238785)

What thus gives meaning to architecture are the diverse fields it weaves into, the multiple layers that it can consolidate into a single entity that can finally help mankind to thrive in its environment.

The Complexity-Diversity duo
Cut to the 21st century, the environment in which we live has become increasingly **complex** and so have the issues we are required to resolve for a dignified sustenance. If the sundial of the Stonehenge was a monument that helped prehistoric man to make sense of his *environment* and thrive in it, today's *environment* is a concoction of a multitude of socio-economic stresses and climatic concerns. Making sense of such an *environment* is not a linear process and its complexity is beyond the understanding of a single group of experts. Hence, it is now more than ever that we need people from **diverse** walks of life to come together to make sense of the environment in which the 21st-century man is required to survive.

Defining the Design Brief : Community Research through Social Scientists
For a piece of architecture to fit in, for it to not seem "out of place", for it to be able to help man thrive in his *environment,* the architect must have a thorough understanding of the environment itself. This environment in which a particular community resides is entangled in a mesh of conflicting issues. For the ensuing architectural feat to be meaningful, what precedes its design is the acute analysis of the environment it will exist in and the community it will serve. To make sense of this complex environment and its varied challenges, to fully fathom the vision and unsaid aspirations of the community, an architect must cross over to the experts who know it best - social scientists, anthropologists, psychologists, economists, as the situation may demand. Humanist professionals can bring to the table what might often go unnoticed by the architect. A diverse analysis group will empower the architect to truly understand the complex relationship between the community and its environment, and the challenges and opportunities existent in this ecosystem. It is not always that a deep understanding of the community and its environment yields the most meaningful of architectural feats, but without it, it is simply impossible for architecture to rise above a mere block of hollow mass.

Today's challenges will be different from those of yesteryears, but as architects, we have the choice to either stay to the beaten track or reinvent the design process. When the architects at White Arkitekter were presented with the brief of having to relocate the Swedish Town of Kiruna, they too had the two choices. The town had developed around an iron mine and prolonged iron extraction had deformed the land on the town's western edge. Unless relocated, the mine would eventually subsume the town with its population of over 20,000 residents. The architects of the project made the harder choice of the two and called for a social anthropology team to shape the design brief for the new urban centre. The team helped the architects initiate dialogue with the citizens and understand their emotions, ambitions and concerns. This informed and shaped the masterplan to be one that can preserve the collective memory of a community and help retain its sense of identity. The team further helped the citizens prepare and plan for their future in the new urban centre, thus helping them to better thrive in their new environment. The collaboration between the interdisciplinary teams and the community is what saved its citizens from feeling *uprooted* in any sense.

Collaborations with social scientists empower architects to better understand the environment for the intervention and the community it is to serve. With their extensive knowledge base, they are more equipped to support or contradict the intuitive assumptions of the architect and can bring to light overlooked aspects. A collaborative research process leaves no room for personal prejudices. Thus the design framework is grounded on research rather than presumptive beliefs, enabling the architectural output to better suit the needs of the community and its users.

STAGE 1 :	**DEFINING THE DESIGN BRIEF** *Research into community requirements and social challenges and opportunities*	Architects + social scientists + client + user community
STAGE 2 :	**OPTIMIZATION OF DESIGN SOLUTION** *Innovate and validate design strategies through credible research data*	Architects + specialized engineers + accountants
STAGE 3 :	**CONSTRUCTION AND IMPLEMENTATION** *Ensure efficient construction and best post-occupancy experience of users*	Architects + project managers + local government + construction workers

Fig 2.: A model process for collaborative architecture *(Source: Author)*

Collaboration for Optimization of Design Solutions

A design brief that is set in place through extensive dialogue with the community and interdisciplinary researchers often portray conflicting priorities and unique challenges. Such a collaborative research process establishes a highly nuanced and contextual design brief that demands innovative design solutions. The shot at innovation increases manifold when the team at work is diverse enough to tackle the complex on-ground reality.

Here a distinction needs to be made, between invention, innovation and diffusion. Invention is the discovery of a new idea for something that can nudge mankind a step toward progress. Innovation, on the other hand, is all about reinventing existing methodologies that can efficiently bring the invented products to the people for their usage and upliftment. Diffusion comes last and aims at disseminating the processes of innovation to the common public.

Invention by far can be a solitary affair; innovation cannot. A single individual might chance upon the idea of a door. But to reproduce that door within the constraints of budget, material availability, existing production methods, community acceptability and other such limiting factors, requires innovation to suitably tweak the invented idea of a door for its application in the context of the site and the community. Without innovation, the door is like a showcased object in a museum that exists but simply cannot impact lives.

Innovation demands teamwork. It calls for multidisciplinary collaborations wherein individuals of respective disciplines not only learn from each other but also contest with one another, thus pushing the limits for design. This entire process of contestation and continuous learning not only leads to the discovery of innovative solutions but helps reach a common ground where all these solutions blend into a perfectly synchronized machine. In architecture, that machine is the built environment which is to serve the needs of the community and its environment. An architect in his lone pursuit might end up simplifying the contradictory demands of the design brief to deliver a machine that serves some, but not all functions.

Unlike gadgets, architecture is a one-time investment, not by a single individual, but by a community of people. Hence this "machine" has to do it ALL. The brilliance of architecture lies in how efficiently the machine performs. It has to satiate the social, economic, political and technological interests of its clients, the community and the environment at large. This reinstates the need for collaboration during the design process. Collaboration between engineers and design specialists who can establish the efficiency of the machine through researched data.

Collaboration between architects and structural engineers dates back to over a half-a-dozen centuries. This sound coalition has revolutionized the construction industry. It has formed the firm base for all endeavours in the history of architecture. Form and structure have forever been in conflict with each other, but this very conflict has pushed the evolution of construction methodologies over the years. From load-bearing structures to framed constructions, from shell structures to pneumatic structures, it has forever assisted architecture in attaining tangible solutions and its lofty vision. Structural innovations have enhanced the pliability of forms for them to more efficiently house the required functions. It has brought the architect immense power in terms of artistic expression and functionalism. It enabled architecture to go as high as possible and as deep as possible, thus helping the architect provide housing solutions in times of land shortage. This collaboration has thus strived forever to make architecture resilient and affordable for all individuals down the ladder.

Like many cities across the globe, the City of Mountain View of California was faced with one of the most significant issues of this century — burgeoning homelessness. The burning question at such a juncture was: how to cut down the cost of the project to half its estimated price, to make housing a reality for low-income individuals and those with developmental disabilities? Determined to create a strong and inclusive housing solution, the architects once again called for material and structural engineers to reinvent construction methodologies. The use of

engineered wood and prefabricated floor cassettes cut down construction costs and time by a huge margin. The result was an architectural ensemble that championed the cause of affordable and inclusive housing for all while paying homage to the area's unique historical architecture.

As today's society struggles to overcome myriad issues, architecture established through collaboration can help communities thrive in contested environments. When architect Julia King arrived at Savda Ghevra, a community resettled to the periphery of Delhi during the Commonwealth Games, she was unaware of the role of sanitation in disseminating social equity. Hoping to create a library or a community facility, her engagement with the people of Savda Ghevra changed her perspective. The community has been forever alienated from basic toilet facilities. The municipal toilets were impractical and unhygienic. That is when King decided to establish a decentralised sanitation system that is additive and easy to install. She collaborated with local and international specialists in urban sanitation systems, and together they devised an off-the-grid low-cost sanitation infrastructure equipped with septic tanks, solar pumps and reed beds that could be easily retrofitted to the existing kutcha houses. The question, in this case, was how do we give an alienated community a chance at equity? Architecture rose to the cause, and with some help from public health experts, gifted the people an indispensable community infrastructure — a sanitation system.

In the 21st century, architects have gone out of their way to collaborate with specialized engineers who can substantiate their design strategies through credible data. Collaboration between architects and sustainability experts has proved to be especially beneficial in the wake of rising climatic concerns. It has helped lower the energy requirements of buildings and has led to the development of green technologies in building construction, reducing the carbon footprint of each architectural project.

Collaborations with engineering disciplines validate the effectiveness of design strategies beyond doubt. They help overcome bottlenecks during the design process enabling the architect to achieve optimal functionality of all systems embodied within the architectural machine.

Collaboration for Implementation of Design Solutions

The culmination of an architectural project is marked by its construction and occupation by the inhabitants. For it to have any positive impact, the final design thus developed after multiple cycles of feedback from experts and the community, need to be truthfully constructed without any compromise. For all architectural visualizations to materialise, it calls for the dedication of numerous nameless artisans, craftsmen, construction workers and technicians. Without their unfaltering support, no form of architecture could have ever taken shape. They do not belong to any one discipline, but their collaboration and effort make all the difference.

The support of the local government, state and central agencies also add to the success of an architectural intervention. Public policies can go a long way in positively morphing the built environment for the betterment of the people. Such has been the case in Vienna where righteous political commitments have propelled architecture to redefine the outlook of social housing in the city. The concept of social housing is often associated with cramped quarters, uninhabitable spaces, ill-maintained buildings, crime and poverty. The Viennese government envisioned transforming that very concept. The City Council, driven by its belief that housing is a basic right, took the challenge head-on to provide its people with affordable housing in a setting where social stratification is almost obsolete. They devised effective rent control policies and inhibited the privatisation of the housing sector. In these government-regulated projects, the developers inherit the land at a reduced cost and are given loans with low-interest rates and extended payment periods. The housing units are rented out at a subsidized rate to low-income residents, refugees, and students. Residents are never required to move out even if their household income levels increase in later years. Thus the system stimulates the co-habitation of families with varying income levels and furthers the cause of social integration. The success of Vienna's system is perfectly complemented by the beauty and architecture of the buildings. The homes are attractive, spacious and free from the derogatory connotations of social housing. This was fundamental in drawing in the middle class, a factor that helped prevent the estates from becoming social ghettos. Vienna's housing program is a prime example of the glorious end that can be achieved when architecture and politics connect to bring about the common good.

Vienna social housing infrastructure, a successful collaboration between architecture and public policies *(Source: www.archdaily.com/934266/querbeet-social-housing-synn-architekten-zt-og)*

Conclusion : Cutting across Disciplines

When the Greeks fell back on mathematics to establish the laws of harmony and symmetry in architecture, they simultaneously proclaimed that architecture can never exist in isolation. It is a transdisciplinary field at its core that holds the power to engage and exist amidst technological, social, economic and political collaborations. Architecture lies at the intersection of art, life and technology. All of the disciplines with their varied inputs can be married to each other through architecture to give society nothing short of social art. The end product is an architectural ensemble that, in its apparent simplicity, can strive to be a fitting solution to the diverse needs of all its stakeholders.

Tushita Basak is a B.Arch. student at Jadavpur University. She is an avid writer and a former semifinalist for the Berkeley Essay Prize 2021. She believes architecture is the backdrop against which the stories of people's lives play out. She is passionate about architectural design and conservation and takes an immense interest in documenting old buildings.
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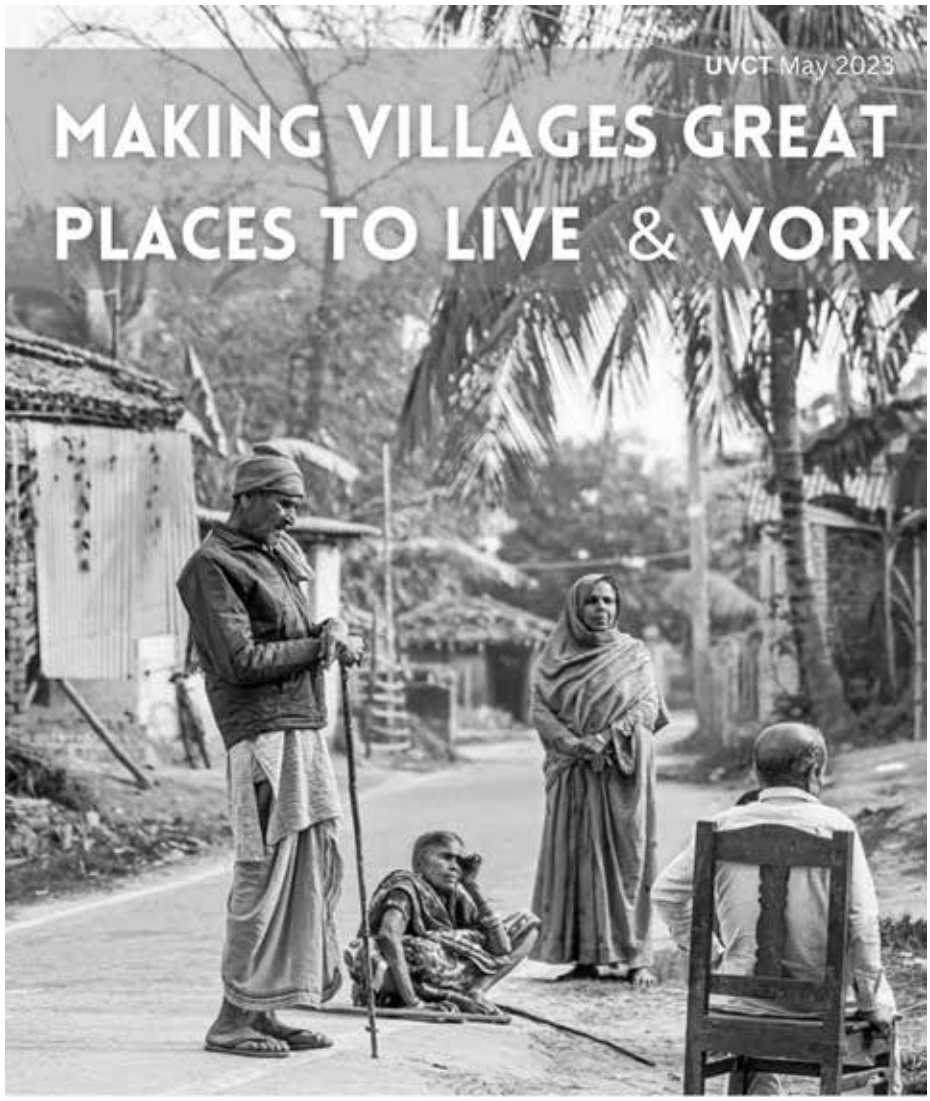
MAKING VILLAGES GREAT PLACES TO LIVE AND WORK

Author: **Prof. Jit Kumar Gupta**
Reviewed by: **Prof. Anand Khatri**



Cover of the book, Making Villages Great Places to Live & Work
(Source: Pixabay)

In 2023, when the profession of architecture is researching the right way for the future of architecture, the concern that involves the minds of the responsible professionals is that architectural solutions to society have not been able to percolate deep into our villages and into our informalities. In these years where the Ministry of Panchayat Raj and Ministry of Rural Development are continuously trying to rework a vision for village development and spatial planning, involving architectural institutions, this book by senior architect Jit Kumar Gupta fills in gaps and is precious to the agenda of the Urban Village Charitable Trust and of Sustainable urbanism.

Making the village a better place to live is the need of the hour. This book comes at a time when the national focus is on the upgradation of villages. The unstoppable development of the metropolis is using up the surrounding agriculture. At this junction, there should be a country-development vision that talks about the need to bring the living conditions in villages and cities at par. Divided into discussions on the 73rd Constitution Amendment Act (1992), a theoretical evolution of village typologies, the 74th Constitutional Amendment Act (1992), and the Shyama Prasad Mukherji National Rurban Mission (India), arguing on rural poverty, the book leads to the possibility of making villages a better place to live through a SWOT analysis.

Suresh Kumar, the former chief principal secretary to the chief minister of Punjab, correctly points out that "While cities often dominate the discourse on development, it is in the villages where the roots of our societies lie". He mentions that this book is a call for policymakers to create reforms that allow the villages to embark on a bit of modernization so as to become better places to live. Prof. D. S. Meshram, the President of the Institute of Town Planners, says that this book makes an honest and holistic attempt to look at the entire context of planning, development, and management in rural India.

Recognising villages as a solution for the reverse migration of people and groups who wish to live at that pace of life has been on our minds. After a national conference on Architecture and Planning of Villages in 2021 held at the Faculty of Architecture & Ekistics Jamia Millia Islamia and UVCT, this book seems to be a continuation of thought, with the work of the author attested to by many senior practising architects and people of authority. It is a document of acknowledgment. It carries the claim of the thinker-author Ar Jit Kumar Gupta that the citizens of the urban world need the pace and scale of the village as much as they need the fast pace of cities. Villages decongest our minds and take us to life processes and interactions at our roots.

Ar Jit sees villages as a model of sustainable living, highlights the absence of a planning tool to look into the planning and development of villages, and argues that there is a lopsided focus on cities. While both villages and towns participate in nation-building, there is an unequal percentage of wealth spent on the development of cities. "The rural settlements are growing and being made to grow by proxy in an unplanned manner," he says. He also argues very strongly that planning is a solution for villages. I wish that this book led the way to the agenda it carries in its title.

ISBN: 978-81-959811-5-1
Published by Urban Village Charitable Trust

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Prof. Jit Kumar Gupta is an architect with more than 53 years of professional experience in architectural education, urban planning, policy planning, urban legislation, capacity building in sustainability, green buildings, affordable housing, smart cities, urban laws; urban missions, rural planning, disasters, urban development, and urban governance.
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Reviewer
Prof. Anand Khatri is the founding director of UVCT, a research repository working on urban informalities. He is a professor of architecture and the head of research at AIT SAP. He has been working on Inter-semiotic exchanges of arts and urbanisation and connects poetry, architecture, traditional dance forms, and theatre.
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BEING HONEST

Ar. Vivek Rathore

Think.
What can I design, from infinity?
From the 'complete' springs a 'complete',
leaving behind nothing but the 'complete'.
Design is not about a part,
But as a part of the whole.
Design is not in doing,
But seeing what it does.
Design is not in the best,
But does it better the rest.
Design is not a destination,
But a journey in continuation.
Design is not in what people see,
But what did i see for them.
Design is not an assignment,
But an alignment.
Design is not about oneself,
But the selflessness in one.
Design is not a piece of art
But the art of becoming 'a' piece
Design is never a story about a human
But how humane is the story

Ask.
What can I design, from infinity?
From the 'complete' springs a 'complete',
leaving behind nothing but the 'complete'.

Design is not just in being simple,
But noticing the simple things in being.
Design is not just in doing it now,
But why should you do this at all?
Design is just not about building habitats
But about fixing habitations.
Design is never more about aspiration,
But on staying rightly inspired.
Design is never about putting through 'my' opinion - 'my' way.
But putting away this 'my' for a sustainable opinion.
Design is not in details of achievements,
But in achieving the details right.
Design is not in breaking the conventions,
But in evolving from the conventions.
Design is never about the shape,
But what would it shape?
Design is not always about being ground breaking,
But being always connected to the ground.

Remember.
What can I design, from infinity?
From the 'complete' springs a 'complete',
leaving behind nothing but the 'complete'.

Vivek Rathore (a part of this whole)

Vivek Rathore graduated from IIT Roorkee in 2000 with a gold medal. He founded his firm 'Salient' (a studio for architecture, landscape, interiors, and enterprise) in 2005.

His team consists of architects, planners, environmentalists, artists, interior designers, graphic designers, landscape architects, engineers, carpenters, and economists. His belief in that design is that "discovery and creation are nothing but a modification of our relationships", which drives the entire ethos of the organisation. He has published many research papers and actively participates in lecture presentations and panel discussions in various state and national level forums. Is a guest faculty member at many leading institutes, including IITs.
info@salientdesignstudio.com

THE JOURNEY FROM EAST TO WEST

Ritesh Chordiya

Ahmedabad is a city in the Indian state of Gujarat that has a rich history and culture, and its architecture reflects this diversity. The Sabarmati River separates Old Ahmedabad from New Ahmedabad. Ahmedabad has been graced with historically significant structures, which contributed to its recognition as Asia's first World Heritage City in 2017.

The eastern part of Ahmedabad is known for its rich Islamic architecture, particularly in the Old City area. The city's famous mosques, including the Jama Masjid and the Sidi Saiyyed Mosque, are prime examples of this style. The Jama Masjid, built in 1424, is the city's oldest mosque and features intricate carvings and decorations. The Sidi Saiyyed Mosque, built in 1573, is known for its beautiful jali (stone lattice) work, particularly the famous "Tree of Life" jali. Hindu architecture is also clearly present in buildings like the Adalaj Stepwell and Swaminarayan Temples.

The evolution of Ahmedabad's architecture after 1947 took a significantly different course, giving rise to the modern style of architecture. It had tremendous support from the enlightened business elite, which attracted artists, architects, teachers, and other excellent contributors to the city from all over. Well-known architects like Charles Correa, Louis Kahn, Le Corbusier, Alexander Calder, Buckminster Fuller, Achyut Kanvinde, Anant Raje, B.V. Doshi, etc. were now going to modify and shape this modest town. The architectural forms of this modern architecture were a reflection of both new materials and enduring traditions. With the arrival of new institutions and housing, this marked the start of the city's growth towards the west.

The riverfront's effect on the city's skyline and the transformation of the city's urban fabric both contribute to the city's ongoing evolution. Along with this, new methods and policies have been implemented in the east of Ahmedabad to preserve Old Ahmedabad's historic significance, which is also a significant source of tourism for the city. Thus, from the early 1600s until the present day, the river has played a significant role in the journey of Ahmedabad from east to west.

Overall, Ahmedabad's architecture reflects the city's diverse history and culture, with a mix of traditional and modern styles.

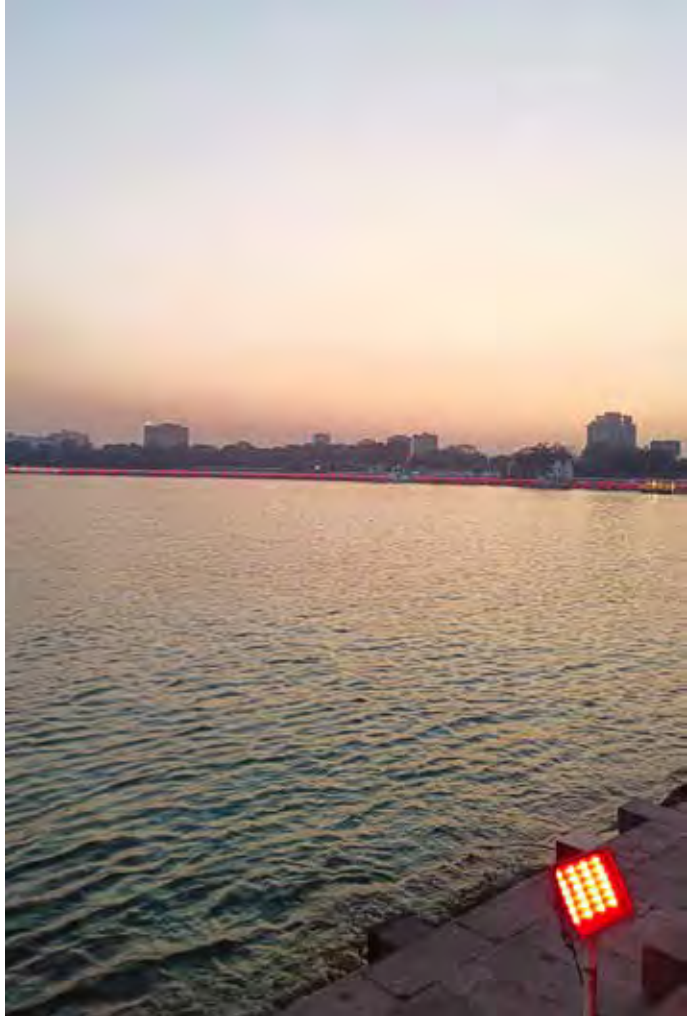
Corridors of Hutheesing Jain temple

Syed Siddique Mosque

Dada Harir Stepwell

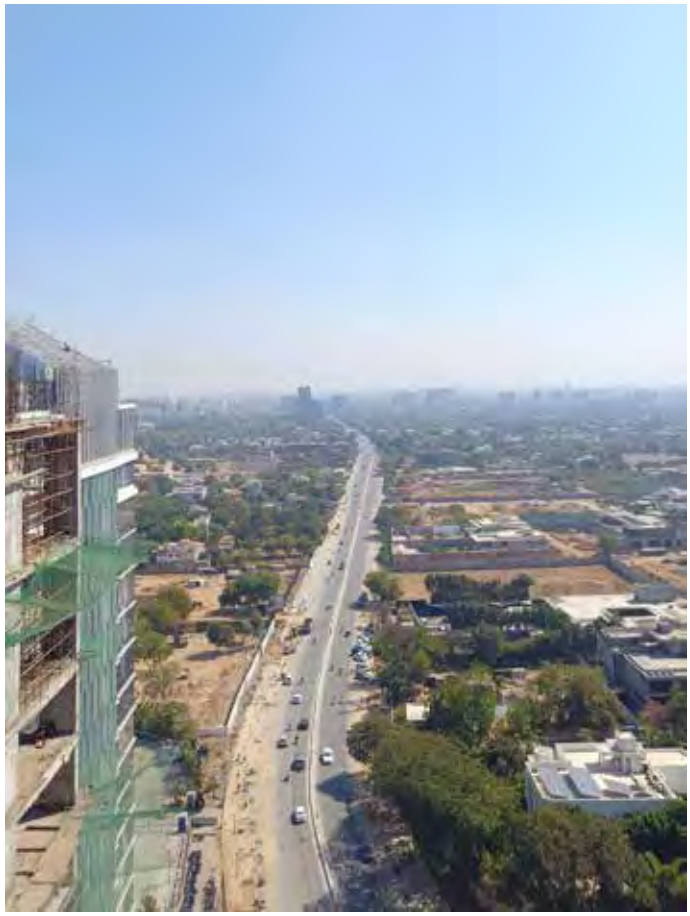
Jama Masjid

Hutheesing Jain temple



Kankaria Lake

Manek Chowk - Famous Food Area



Sindhu Bhavan Road

CEPT University

Atal Bridge

All images courtesy: **The author**

Ritesh Chordiya is a fourth-year B.Arch. student at Thakur School of Architecture and Planning. He believes that one of the finest ways to learn about architecture is to go exploring.
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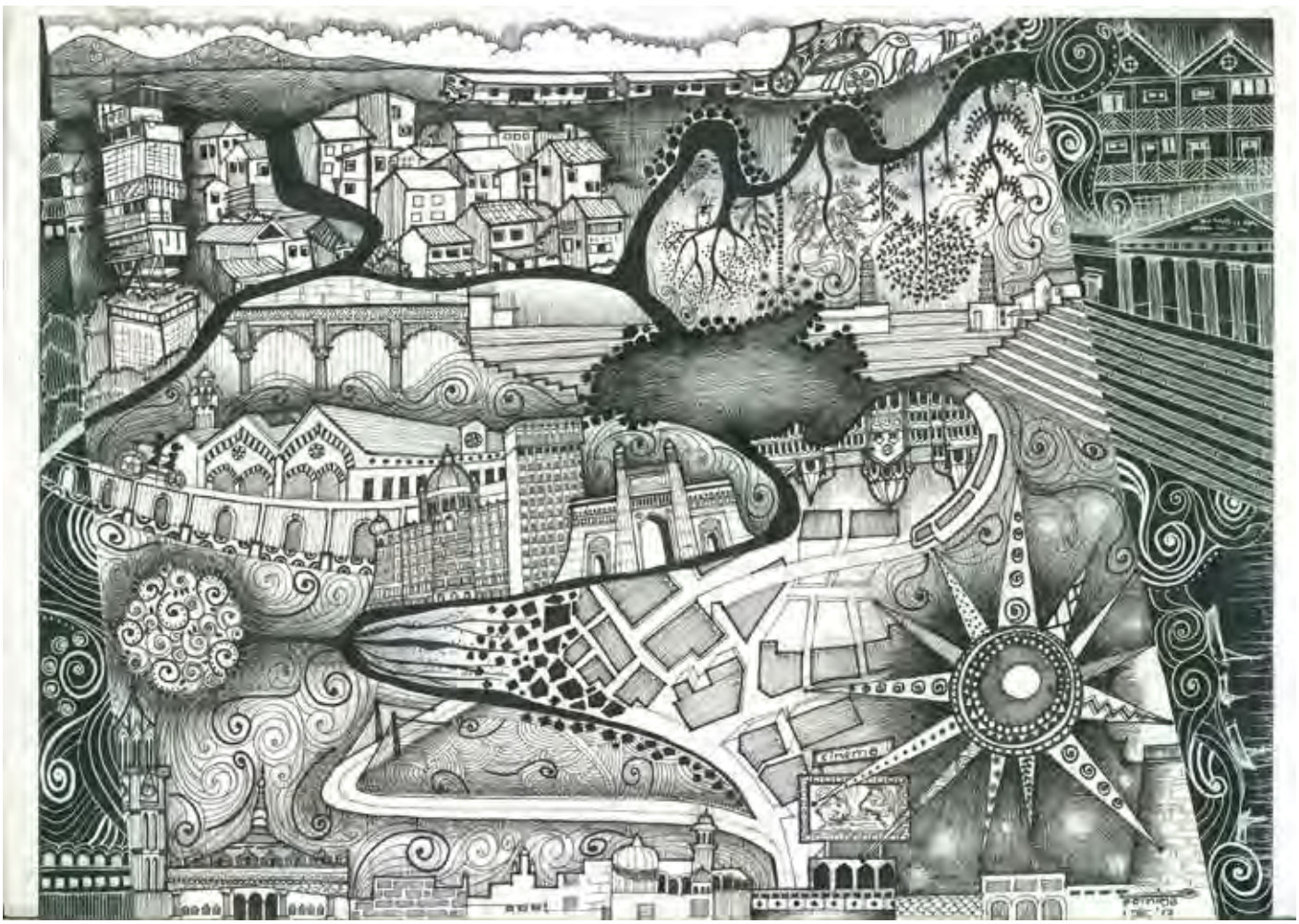
REINVIGORATING PLACES WITH PEN & INK

Ar. Pornima Buddhivant



ISLAND CALLED MUMBAI

Being born in a dynamic Indian city like Mumbai means being acquainted with at least two other languages, multiple cultures, and delicious cuisines. Every city has its own charm, but I feel Mumbai is incredibly poetic! Known for its iconic skyline, bustling streets, and rich cultural heritage, Mumbai stands as a testament to the indomitable spirit of its people.

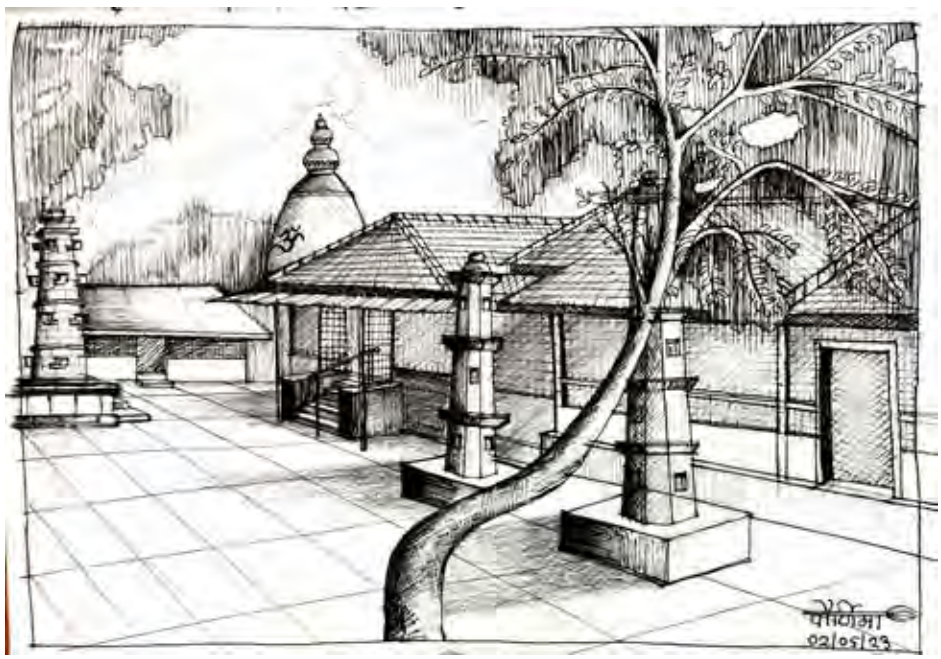
A staggering number of gods and goddesses are worshipped here, and there are thousands of manuscripts that describe their magnificence. In any urban street in Mumbai, you are certain to find the humming of prayers or a song mixing delicately with the honking of auto rickshaws or taxis, the rumbling of the rails, somewhere the roadside book dealer wailing out the names of the latest books, and the loud calls at the fish market. Here the local trains usually arrive on time, and rushing for a seat violently is absolutely not against the law, with the exception of the parts where we struggle to breathe inside a crowded local train. Where lunch time is at 3 PM and dinner is at 12 AM. Here, people face hardships but still say "It's fine". The city that can't live without the bruh of Bollywood. Each one more or less comes down to the same thing: a love for Vada Pav, Pani Puri, and Chai.

The architecture, which is dispersed across the four directions of north, south, west, and east, boasts both; the past and the present. Colonial architecture from the Fort's earlier era, the Arabian Sea that kisses the island each day, the heritage stories of old settlements and cotton mills that can be discovered from contemporary times. The city's skyline is adorned with architectural marvels that reflect its evolution and prosperity. From the iconic Gateway of India to the art deco buildings of Marine Drive, Mumbai seamlessly blends historic and contemporary structures. The Bandra-Worli Sea Link, a modern engineering feat, connects the island city to the mainland, enhancing transportation and symbolising Mumbai's progress.

The people's stories and movements, which have been carried on for over a hundred years. From the celebration of festivals, to fighting for slum redevelopment or being the financial capital, the island has never-ending facts. Even though the present development is slightly dramatic, if you desire to dream and shine like a star with verse, the city won't disappoint. This is Mumbai. This is what Mumbai culture is all about! Mumbai is an Emotion!!

A MAJESTIC HERITAGE IN KOLHAPUR, MAHARASHTRA

Nestled in the vibrant city of Kolhapur in Maharashtra, India, stands the magnificent Chhatrapati Shahu Palace, also known as the New Palace Museum, a testament to the grandeur and rich history of the region of the Maratha Empire. Built during the reign of Chhatrapati Shahu Maharaj in the early 19th century, this magnificent palace showcases a harmonious fusion of Indo-Saracenic and Rajwada (royal palace) architectural styles, built-in black polished stone, making it a fascinating sight to behold. It is a visual journey through the splendid architecture, intricate detailing, and captivating stories that make the palace a true gem. This architectural marvel has not only withstood the test of time but also embodies the essence of an era marked by power, opulence, and cultural significance and provides a window into a glorious past.



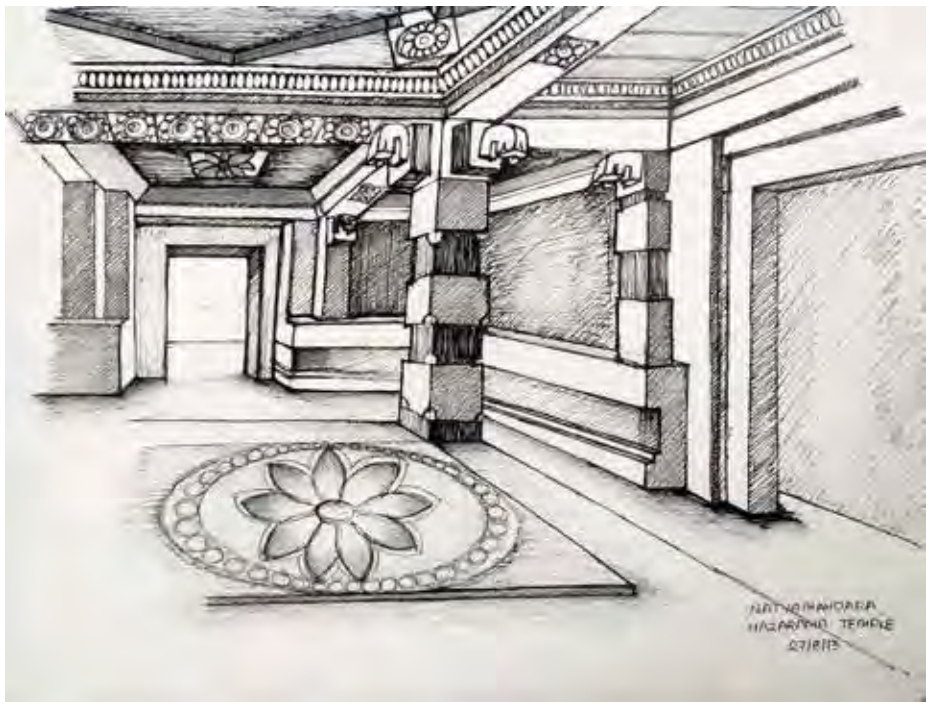
A SPIRITUAL OASIS IN THE HEART OF MUMBAI

Bhulingeshwar Temple in Chembur, Mumbai, is a captivating place of worship that holds deep spiritual significance for the local community. Nestled amidst the bustling cityscape, this ancient temple is a tranquil oasis where devotees seek solace and connect with their faith. The temple's architecture showcases a blend of traditional Indian styles, adorned with intricate sculptures and motifs. The level of detail and precision in the sculptures, carvings, walls, and pillars is truly awe-inspiring, which showcasing the artistic genius of the craftsmen who brought them to life.

College study tour sketches from B. Arch. course: Hampi 2013

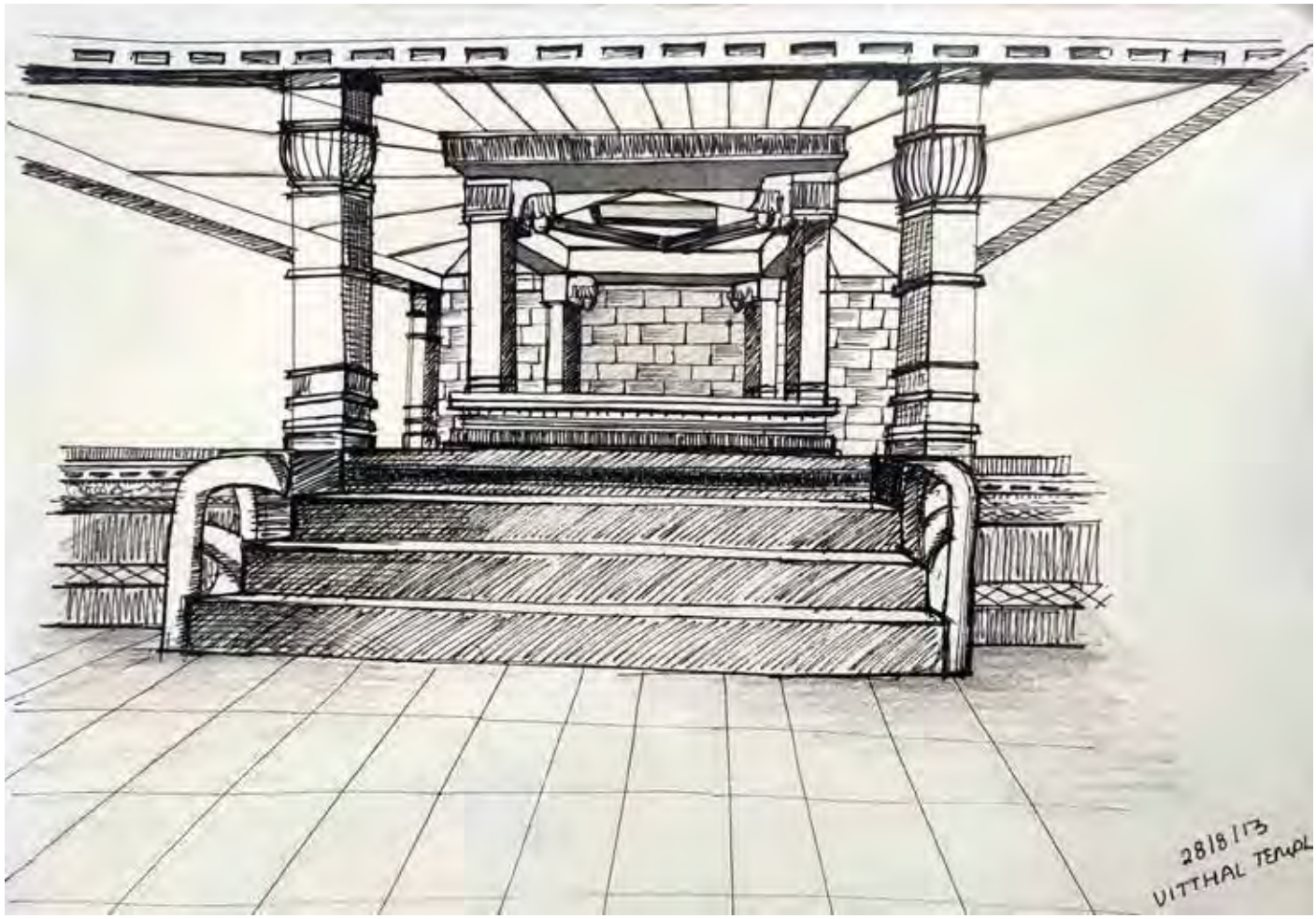
RUINS OF HAMPI AND VISHNU TEMPLE

Hampi, a UNESCO World Heritage Site located in the Indian state of Karnataka, is a treasure trove of ancient ruins and architectural marvels. Once the thriving capital of the Vijayanagara Empire, the city now stands as a silent witness to its glorious past. Among the numerous ruins that dot this vast landscape, the Vishnu Temple holds a special place. These ancient structures are not mere relics of the past, but living testaments to human ingenuity and resilience. They invite us to explore the depths of history, to immerse ourselves in the beauty of art, and to ponder the mysteries of existence. The ruins of Hampi and the Vishnu Temple continue to inspire and captivate visitors.



HAZARA RAMA, TEMPLE

Located in the historic city of Hampi, Karnataka, India, the Hazarama Temple stands as a testament to the architectural brilliance and cultural richness of the Vijayanagara Empire. This stunning temple, known for its intricate carvings and exquisite craftsmanship, which offers visitors a captivating journey into the grandeur of the past. Its breath-taking carvings, intricate bas-reliefs, and captivating narrative panels transport visitors to an era where art, religion, and culture thrived in harmony. A visit to Hazarama Temple is a pilgrimage for history enthusiasts, architecture observers, and those seeking a connection with the vibrant heritage of India.



ENTRANCE PORCH OF VITTHALA TEMPLE, HAMPI

This temple is an expression to the Vijayanagara Empire's artistic talent and rich cultural history. From the intricately carved stone chariot to the enchanting musical pillars, every element within the temple complex exudes a timeless charm. Inside the main hall of Vitthala Temple, surrounded by a mesmerising famous Musical Pillars which produces a distinct musical note when struck gently, creating a symphony of sounds that once resonated through the halls. The Hall of Dance, also known as the Ranga Mandapa, is a spacious hall where the columns are adorned with sculptures depicting various dance forms and poses.

Ar. Pornima Buddhivant is a graduate of the Rachana Sansad's Academy of Architecture (Batch 2012–17) and pursued a Master's in Environmental Architecture from Dr. Bhanuben Nanavati College of Architecture, Pune. She also holds a Diploma in Natural Resource Conservation from Ecological Society, Pune. Currently, she is working as an Assistant Professor at CTES College of Architecture, Mumbai, as well as an Executive Committee Member & Social Media Coordinator at INTACH Mumbai. Being an environmentalist and researcher, her passion resonates closely with the projects that are sustainable to curb the overall environmental impact. She is a TEDx speaker, SDG advocate, and the founder of an art group called 'Karv Sankalan'.
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BRIDGING THE GAP

The Role of the Pedagogue in Architectural Education

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Bridging the gap between education
(Source: https://www.chieflearningofficer.com/wp-content/uploads/2016/04/co_0416_inconclusion_1000x800.jpg)

ABSTRACT

Architectural education is a complex and ever-evolving field. As the profession of architecture changes, so must the way we teach it. In order to prepare students for the challenges of professional practise, it is essential that architectural educators bridge the gap between theory and practise. This can be done by incorporating hands-on learning experiences, providing opportunities for students to work with practising architects, and fostering a culture of collaboration and critical thinking.

Keywords: *architectural education, theory and practise, hands-on learning, working with practising architects, fostering a culture of collaboration, and critical thinking*

Introduction

The field of architecture is constantly changing. New technologies, materials, and methods of construction are emerging all the time, and the needs of society are constantly evolving. As a result, it is more important than ever for architectural educators to prepare students for the challenges of professional practise.

One of the most important ways to do this is to bridge the gap between theory and practise. This means providing students with opportunities to learn about the theoretical foundations of architecture while also giving them the hands-on experience they need to be successful in the field.

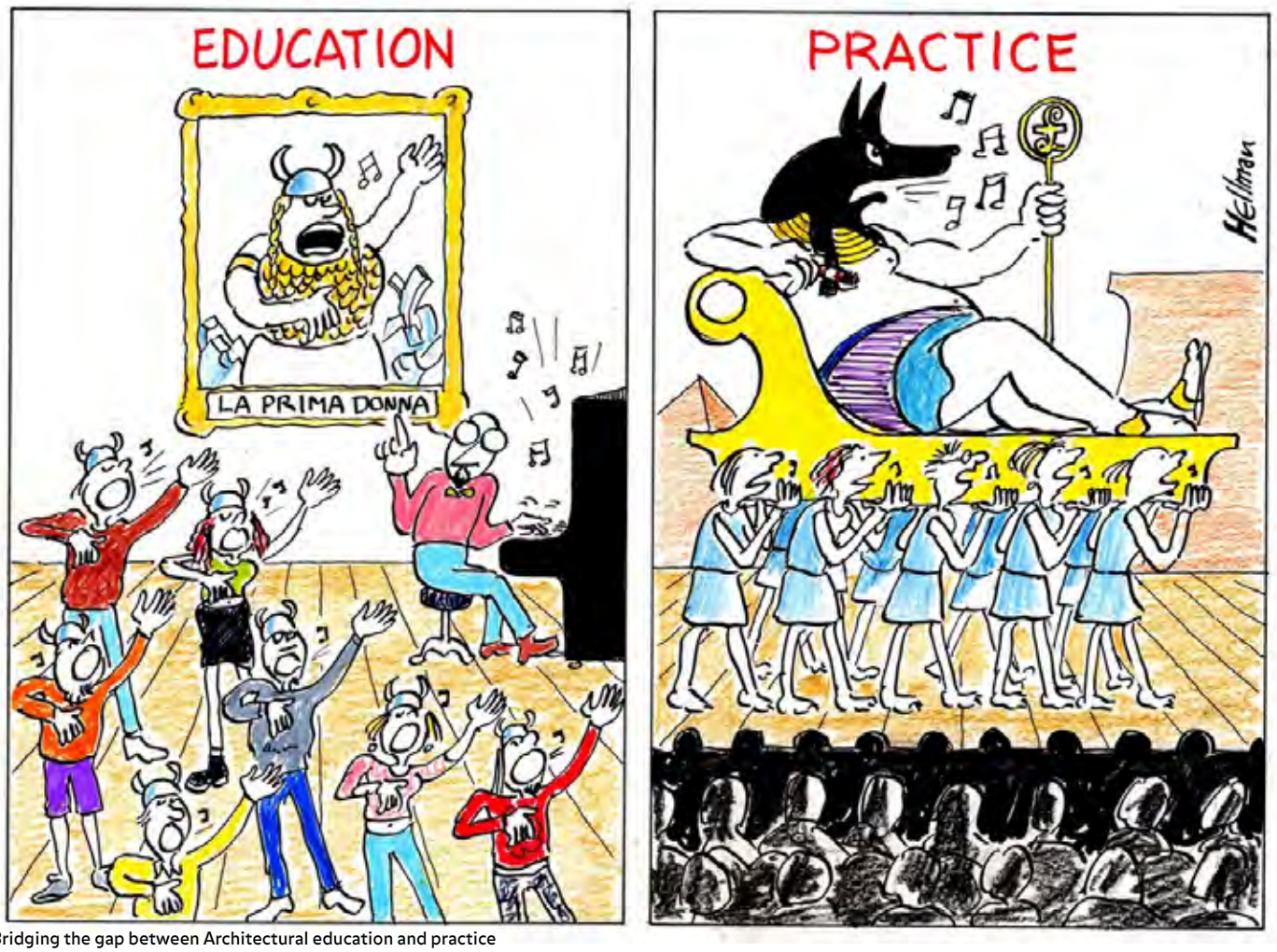
Hands-on Learning Experiences

One of the best ways to bridge the gap between theory and practise is to provide students with hands-on learning experiences. This can be done through a variety of means, such as studio-based learning, field trips, and internships.

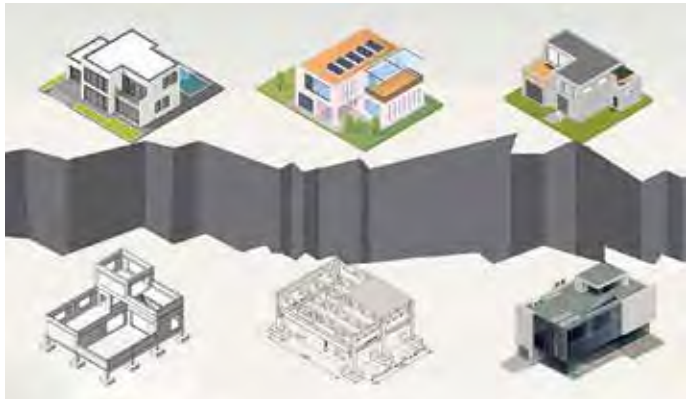
Studio-based learning is a method of instruction that allows students to work on real-world projects from start to finish. This type of learning gives students the opportunity to apply the theories they have learned in the classroom to real-world problems.

Field trips can also be a great way to bridge the gap between theory and practise. By visiting architectural sites, students can see how the theories they have learned in the classroom are applied in the real world.

Internships are another great way for students to gain hands-on experience in the field of architecture. Internships allow students to work with practising architects and gain valuable insights into the professional world.



Bridging the gap between Architectural education and practice
(Source: https://www.re-thinkingthefuture.com/wp-content/uploads/2020/08/A1465-Addressing-the-gap-between-Architectural-education-and-practice-Image-1.jpg)



Bridging the gap between architecture and engineering services *(Source: https://www.re-thinkingthefuture.com/wp-content/uploads/2020/12/A2559-Addressing-the-gap-between-architectural-and-engineering-practices.jpg)*

Raising the bar for Hybrid Work Technologies *(Source: https://www.re-thinkingthefuture.com/wp-content/uploads/2020/08/A1465-Addressing-the-gap-between-Architectural-education-and-practice-Image-4.jpg)*

Working with Practising Architects

In addition to providing students with hands-on learning experiences, it is also important for architectural educators to provide opportunities for students to work with practising architects. This can be done through a variety of means, such as guest lectures, workshops, and mentorship programmes.

Guest lectures are a great way for students to learn from practising architects. By hearing from architects about their work, students can gain insights into the challenges and rewards of professional practise.

Workshops are another great way for students to learn from practising architects. Workshops allow students to learn new skills and techniques from experts in the field.

Mentorship programmes are a great way for students to develop one-on-one relationships with practising architects. Mentorship programmes can provide students with guidance and support as they navigate the challenges of professional practise.

Fostering a Culture of Collaboration and Critical Thinking

In addition to providing students with hands-on learning experiences and opportunities to work with practising architects, it is also important for architectural educators to foster a culture of collaboration and critical thinking. This can be done by creating a classroom environment that is supportive and encourages creativity.

Bridging the gap between education study and work *(Source: https://monitor.icef.com/wp-content/uploads/2015/07/Bridging-the-gap-between-study-and-work.jpg)*

About enabling the innovative initiative *(Source: https://medschool.vanderbilt.edu/ei2/wp-content/uploads/sites/89/2022/02/EI2_Leap-of-Faith.jpg)*

A collaborative classroom environment is one in which students are encouraged to work together to solve problems. This type of environment can help students develop the skills they need to work effectively in teams in the professional world.

A culture of critical thinking is one in which students are encouraged to question assumptions and think outside the box. This type of environment can help students develop the skills they need to be creative and innovative in their work.

Conclusion

In conclusion, there are a number of ways that architectural educators can bridge the gap between theory and practise. By providing students with hands-on learning experiences, opportunities to work with practising architects, and a culture of collaboration and critical thinking, architectural educators can prepare students for the challenges of professional practise.

Sailesh G. Nair is an experienced architect and educational professional with over 25 years of industry experience. He is the founder of Sailesh Nair & Associates and has successfully completed numerous architectural and interior projects for government, semi-government, and multinational clients. He holds a master's degree in Urban and Regional Planning and is registered with both the Council of Architecture and the Indian Institute of Architects. Additionally, he has contributed as a visiting faculty member and has held various positions within architectural organisations.

Taha Padrawala is an architect, urbanist, and educator who serves as the Founder Principal of AI-Taha Architects and as an Assistant Professor at the College of Architecture, SVIT, Vasad. He pursued his studies at the College of Architecture, SVIT, Vasad, where he graduated in 2012 with a Master's Degree in Rural Planning and Management, receiving a distinguished Student Award from CEPT University in Ahmedabad in 2014. In addition to his involvement in designing buildings, Taha has actively contributed to civic and urban affairs in Vadodara. He has served on commissions dedicated to historic preservation and environmental issues and has collaborated with various neighbourhood groups.

NEWSLETTER MAY-JUNE

IIA ELECTED MEMBERS RESULT

LIST OF OFFICE BEARERS & COUNCIL MEMBERS 2023-2025			
Sr. No.	Position	Membership No.	Name
1	President	F07855	Vilas Avachat
2	Vice President	F12641	Jitendra Mehta
4	Hon. Treasurer	F11183	B. Sudhir
5	Jt. Hon. Secretary	F09834	Bawdekar Sandeep M
6	Jt. Hon. Secretary	F10530	Akshaya Kumar Beuria
7	Jt. Hon. Secretary	F06461	Ranee Vedamuthu
1	Council Member	F08121	KK Asthana
2	Council Member	A07148	Udaya Shankar Doni
3	Council Member	A09252	Satishraj Jagdale
4	Council Member	F11446	Sandeep Kumar Jha
5	Council Member	F19411	Kurian George
6	Council Member	F11536	Raj Prajapati
7	Council Member	F09324	Debatosh Sahu
8	Council Member	F18998	Shilpa Sharma
9	Council Member	A11723	Amit Mangesh Sukhthankar
10	Council Member	A10674	Tapale Yayati Murlidhar

CHAPTER EXECUTIVE COMMITTEE 2023-2025				
Sr. No.	Chapter	Post	Member-ship No.	Name
1	Andhra Pradesh Chapter	Chairman	A11925	Emandi Vijay Bhaskar
2	Andhra Pradesh Chapter	Vice Chairman	A15019	V. Venu Gopal
3	Andhra Pradesh Chapter	Hon. Treasurer	A12288	K. Vijay Anand
4	Andhra Pradesh Chapter	Jt. Hon. Secretary	A17547	D. Srinivas
5	Andhra Pradesh Chapter	Jt. Hon. Secretary	F12771	K. Subba Rao
1	Assam Chapter	Chairman	F17242	Hiranya Kumar Rajkhowa
2	Assam Chapter	Vice Chairman	F14357	Budhin Borthakur
3	Assam Chapter	Hon. Treasurer	A14362	Pankaj Phukan
4	Assam Chapter	Jt. Hon. Secretary	A20290	Sukanya Das
5	Assam Chapter	Jt. Hon. Secretary	A17629	Pritam Nath
1	Bihar Chapter	Chairman	F11448	Sharma Abhishek
2	Bihar Chapter	Vice Chairman	F15528	Kumar Ashesh
3	Bihar Chapter	Hon. Treasurer	F14351	Kumar Amit
4	Bihar Chapter	Jt. Hon. Secretary	F13258	Kumar Pradeep
5	Bihar Chapter	Jt. Hon. Secretary	F13259	Shyam Prasad
1	Chandigarh Chapter	Chairman	F16947	Manmohan Khanna
2	Chandigarh Chapter	Vice Chairman	F08124	Bansal Rakesh
3	Chandigarh Chapter	Hon. Treasurer	A15869	Anju Bala
4	Chandigarh Chapter	Jt. Hon. Secretary	A18594	Sanyam Bahga
5	Chandigarh Chapter	Jt. Hon. Secretary	A09257	Ashok Kumar Juneja
1	Chhattisgarh Chapter	Chairman	A15601	Rahatgaonkar Saurabh
2	Chhattisgarh Chapter	Vice Chairman	A15667	Haldhar Manas
3	Chhattisgarh Chapter	Hon. Treasurer	A14767	Deshpande Atul Prakash
4	Chhattisgarh Chapter	Jt. Hon. Secretary	A17602	Jaggi Ravi
5	Chhattisgarh Chapter	Jt. Hon. Secretary	A20259	Nigam Shashank
1	Goa Chapter	Chairman	F20108	Ramani Milind Shrikant
2	Goa Chapter	Vice Chairman	F16963	Sardesai Rahul Vishwas
3	Goa Chapter	Hon. Treasurer	A17997	Tapadia Vidhya Anupam
4	Goa Chapter	Jt. Hon. Secretary	A20353	Gadgil Anup Moreshwar
5	Goa Chapter	Jt. Hon. Secretary	A14525	Samzgiri Kaustubh Devadutt
1	Gujarat Chapter	Chairman	F14683	Trivedi Mauktik Shashi-kantbhai
2	Gujarat Chapter	Vice Chairman	A08451	Kabaria Rakeshbhai Bavbhai
3	Gujarat Chapter	Hon. Treasurer	A15520	Mehta Bhavesh Vijay-kumar
4	Gujarat Chapter	Jt. Hon. Secretary	A22100	Ramparia Ravi Natwarlal
5	Gujarat Chapter	Jt. Hon. Secretary	NOMINATION NOT RECEIVED	
1	Haryana Chapter	Chairman	F09454	Logani Vivek
2	Haryana Chapter	Vice Chairman	F17948	Chaudhary Surender Singh
3	Haryana Chapter	Hon. Treasurer	A17092	Kumar Desh
4	Haryana Chapter	Jt. Hon. Secretary	F17181	Sonia
5	Haryana Chapter	Jt. Hon. Secretary	F18104	Thakur Vikrant
1	Himachal Pradesh Chapter	Chairman	F09222	Chandel Nand Lal
2	Himachal Pradesh Chapter	Vice Chairman	A08473	Mastana Luder Mani
3	Himachal Pradesh Chapter	Hon. Treasurer	NOMINATION NOT RECEIVED	
4	Himachal Pradesh Chapter	Jt. Hon. Secretary	A09333	Sharma Sarojini
5	Himachal Pradesh Chapter	Jt. Hon. Secretary	A11551	Sharma Sushil
1	Jammu & Kashmir Chapter	Chairman	F18595	Dubey Vikas
2	Jammu & Kashmir Chapter	Vice Chairman	F12704	Abrol Vishal
3	Jammu & Kashmir Chapter	Hon. Treasurer	A13832	Mahajan Sanjeev Mahesh
4	Jammu & Kashmir Chapter	Jt. Hon. Secretary	A17951	Singh Harbinder Pal
5	Jammu & Kashmir Chapter	Jt. Hon. Secretary	A13035	Verma Anil Kumar

1	Jharkhand Chapter	Chairman	A18809	Atul Saraf
2	Jharkhand Chapter	Vice Chairman	A21283	Apurb Minz
3	Jharkhand Chapter	Hon. Treasurer	A15920	Amit Barla
4	Jharkhand Chapter	Jt. Hon. Secretary	A21457	Anupam Deb
5	Jharkhand Chapter	Jt. Hon. Secretary	A21276	Anurag Kumar
1	Karnataka Chapter	Chairman	F12013	B R Mohan
2	Karnataka Chapter	Vice Chairman	A16167	Haris Mueen
3	Karnataka Chapter	Hon. Treasurer	A13200	K Shyam Sunder
4	Karnataka Chapter	Jt. Hon. Secretary	A15364	Pandurangi Anand Narayan
5	Karnataka Chapter	Jt. Hon. Secretary	A06511	Salim Haroon
1	Kerala Chapter	Chairman	F12598	Cyriac Vinod
2	Kerala Chapter	Vice Chairman	A16602	Chatterjee Monolita
3	Kerala Chapter	Hon. Treasurer	A16483	George Shintu G
4	Kerala Chapter	Jt. Hon. Secretary	A20037	Mohamed Ali Nihad
5	Kerala Chapter	Jt. Hon. Secretary	A17756	Sudharman Sudheesh
1	Madhya Pradesh Chapter	Chairman	A12330	Vibha Shrivastava
2	Madhya Pradesh Chapter	Vice Chairman	NOMINATION NOT RECEIVED	
3	Madhya Pradesh Chapter	Hon. Treasurer	A17891	Anish Pal Singh
4	Madhya Pradesh Chapter	Jt. Hon. Secretary	A17954	Manoj Shrimal
5	Madhya Pradesh Chapter	Jt. Hon. Secretary	NOMINATION NOT RECEIVED	
1	Maharashtra Chapter	Chairman	F09887	Sandeep Ganesh Prabhu
2	Maharashtra Chapter	Vice Chairman	A11472	Sunil M Bhale
3	Maharashtra Chapter	Hon. Treasurer	A15152	Raviraj Laxman Sarwate
4	Maharashtra Chapter	Jt. Hon. Secretary	A12473	Shekhar Bagool
5	Maharashtra Chapter	Jt. Hon. Secretary	A12357	Upendra Arun Pandit
1	Northern Chapter	Chairman	F10957	Ashish Gupta
2	Northern Chapter	Vice Chairman	F08558	Rajiv Biala
3	Northern Chapter	Hon. Treasurer	F10958	Archana Khanna
4	Northern Chapter	Jt. Hon. Secretary	F16613	Rohit Jain
5	Northern Chapter	Jt. Hon. Secretary	A18545	Suditya Sinha
1	Odisha Chapter	Chairman	A16376	Swopnadutta Mohanty
2	Odisha Chapter	Vice Chairman	F16217	Mousumi Nanda
3	Odisha Chapter	Hon. Treasurer	A19054	Laxmi Narayan Singh
4	Odisha Chapter	Jt. Hon. Secretary	F16670	Rudra Sabitru Nayak
5	Odisha Chapter	Jt. Hon. Secretary	A16432	Bibhudatta Sahoo

1	Punjab Chapter	Chairman	F13023	Ahluwalia Pritpal Singh
2	Punjab Chapter	Vice Chairman	F16899	Dinesh Chander Bhagat
3	Punjab Chapter	Hon. Treasurer	NOMINATION NOT RECEIVED	
4	Punjab Chapter	Jt. Hon. Secretary	A14593	Lokesh Gupta
5	Punjab Chapter	Jt. Hon. Secretary	A16031	Rajan Tangri
1	Rajasthan Chapter	Chairman	F13781	Sogani Tushar
2	Rajasthan Chapter	Vice Chairman	F13004	Agrawal Gaurav
3	Rajasthan Chapter	Hon. Treasurer	A11797	Mohnani Prakash
4	Rajasthan Chapter	Jt. Hon. Secretary	A09992	Bhargawa Ashutosh
5	Rajasthan Chapter	Jt. Hon. Secretary	A18572	Tanwar Ankur Singh
1	Tamil Nadu Chapter	Chairman	F07121	P. Chandranesan
2	Tamil Nadu Chapter	Vice Chairman	A10585	T R Palaniappan
3	Tamil Nadu Chapter	Hon. Treasurer	F13241	M. Ramanathan
4	Tamil Nadu Chapter	Jt. Hon. Secretary	A14474	Ar. Raghavendran Rajagopalan
5	Tamil Nadu Chapter	Jt. Hon. Secretary	A10780	Vijay Anand Rajaram
1	Telangana Chapter	Chairman	F10812	V. V. L. Narasimham
2	Telangana Chapter	Vice Chairman	F09361	Rammohan Vysyaraju
3	Telangana Chapter	Hon. Treasurer	A10808	Ashok Raj T
4	Telangana Chapter	Jt. Hon. Secretary	F21009	Jyothirmayi Mitta
5	Telangana Chapter	Jt. Hon. Secretary	F10294	Yenduri Suresh Babu
1	Uttar Pradesh Chapter	Chairman	F17311	Sandeep Kumar Saraswat
2	Uttar Pradesh Chapter	Vice Chairman	F10617	Ajay Srivastava
3	Uttar Pradesh Chapter	Hon. Treasurer	A16909	Anuj Tandon
4	Uttar Pradesh Chapter	Jt. Hon. Secretary	A17795	Sandeep Singh Negi
5	Uttar Pradesh Chapter	Jt. Hon. Secretary	A16403	Devesh Mani Tripathi
1	Uttarakhand Chapter	Chairman	NO VALID NOMINATIONS	
2	Uttarakhand Chapter	Vice Chairman	NOMINATION NOT RECEIVED	
3	Uttarakhand Chapter	Hon. Treasurer	NOMINATION NOT RECEIVED	
4	Uttarakhand Chapter	Jt. Hon. Secretary	NO VALID NOMINATIONS	
5	Uttarakhand Chapter	Jt. Hon. Secretary	NO VALID NOMINATIONS	
1	West Bengal Chapter	Chairman	A14010	Sircar Ritam
2	West Bengal Chapter	Vice Chairman	A21422	Khan Chanchal Kumar
3	West Bengal Chapter	Hon. Treasurer	A15534	Manna Pratik
4	West Bengal Chapter	Jt. Hon. Secretary	A12094	Biswas Santa
5	West Bengal Chapter	Jt. Hon. Secretary	A13560	Maita Palas

WELCOME NEW IIA MEMBERS

12th Council Meeting Held at H.O (Mumbai) on 27th April, 2023.

Sr. No.	Associate to Fellow	Memb. No.	Place
1	AR. Anand Tikamchandji Jain	F13773	Yavatmal

Sr. No.	Dirct Fellow	Memb. No.	Place
1	Ar. Ramalinga Reddy R	F26717	Karnataka
2	Ar. Priyanka Gupta	F26718	Bhilai
3	Ar. Shahana Ghosh Dastidar	F26719	Northern
4	Ar. Paul Manoharan Moses	F26720	Karnataka
5	Ar. Mohan Raj A	F26721	Coimbatore

Sr. No.	Assoicate	Memb. No.	Place
1	Ar. Jil Kalpeshbhai Shah	A26722	Ahmedabad
2	Ar. Dhiraj Bharat Bharati Patil	A26723	Kalyan
3	Ar. Sneha Narayan Shweta Shanbhag	A26724	Thane
4	Ar. Shivani Shirish Thigale	A26725	Goa
5	Ar. Sridhar Ravuri	A26726	Telangana
6	Ar. Rekha Rani	A26727	Uttar Pradesh
7	Ar. Elias Alan Febian	A26728	Cochin
8	Ar. Arfenara Nayan	A26729	West Bengal
9	Ar. Rajesh Kumar Varma	A26730	Gurgaon
10	Ar. Kunal Singla	A26731	Haryana
11	Ar. Geetika	A26732	Hisar
12	Ar. Akash Bhatia	A26733	Faridabad
13	Ar. Yogesh	A26734	Faridabad
14	Ar. Nikhil Mittal	A26735	Faridabad
15	Ar. Divya R	A26736	Madurai
16	Ar. Arjun Kamal Malik	A26737	Brihan Mumbai
17	Ar. Abdul Rehman Aasim Misbah Jalal	A26738	Kalyan
18	Ar. Palak Harshadkumar Acharya	A26739	Ahmedabad
19	Ar. Pooja Jitendra Smita Mukadam	A26740	Brihan Mumbai
20	Ar. Chandan Kathpal	A26741	Haryana
21	Ar. Supriya	A26742	Hisar
22	Ar. Rishabh Monga	A26743	Haryana
23	Ar. Prithiv Anand R	A26744	Tamil Nadu
24	Ar. Abirami N	A26745	Tamil Nadu
25	Ar. Vibhav Anand	A26746	Uttar Pradesh
26	Ar. Mukesh Raj Saxena	A26747	Uttar Pradesh
27	Ar. Prateek Singhal	A26748	Noida
28	Ar. Abhijeet Sonker	A26749	Uttar Pradesh
29	Ar. Faraz Faisal Khan	A26750	Uttar Pradesh
30	Ar. Md Noman Mansoori	A26751	Uttar Pradesh
31	Ar. Devansh Gupta	A26752	Rajasthan
32	Ar. Ravi Kumar	A26753	Haryana
33	Ar. Deenu	A26754	Haryana
34	Ar. Dinesh Sharma	A26755	Haryana
35	Ar. Priya	A26756	Haryana
36	Ar. Sonu	A26757	Haryana
37	Ar. Rishi Charles C	A26758	Chennai
38	Ar. Geethanjali S	A26759	Tamil Nadu
39	Ar. Shabin S Shajahan	A26760	Kollam
40	Ar. Adarsh R	A26761	Kerala
41	Ar. Zenia Vandrewala	A26762	Cochin
42	Ar. Jackson Paul	A26763	Cochin
43	Ar. Payal Jagdish Lakhani	A26764	Yavatmal
44	Ar. Kelshi Prafulbhai Patel	A26765	Yavatmal
45	Ar. Himanshu Anandrao Patekar	A26766	Yavatmal
46	Ar. Raj Vijay Lunawat	A26767	Yavatmal
47	Ar. Vaibhav Vijayrao Jumde	A26768	Yavatmal
48	Ar. Siddi Prathamesh Battalwar	A26769	Yavatmal
49	Ar. Prathamesh Gajanan Raut	A26770	Yavatmal
50	Ar. Shubham Sunil Gawande	A26771	Yavatmal
51	Ar. Jayesh Pramod Bora	A26772	Yavatmal
52	Ar. Shantanu Sanjay Bharade	A26773	Yavatmal
53	Ar. Swapnil Shyam Lakhani	A26774	Yavatmal
54	Ar. Yash Pramod Mundhada	A26775	Yavatmal
55	Ar. Renu Ravindra Kothari	A26776	Yavatmal
56	Ar. Arpit Jitesh Patira	A26777	Yavatmal
57	Ar. Switi Suryakant Pise	A26778	Yavatmal
58	Ar. Shubham Santosh Kumar Chhajed	A26779	Yavatmal
59	Ar. Abhishek Ghanshyam Bagadi	A26780	Yavatmal
60	Ar. Harsh Anand Jain	A26781	Yavatmal
61	Ar. Amar Sudhakar Kelkar	A26782	Yavatmal
62	Ar. Ashish Bhanudas Duddalwar	A26783	Yavatmal
63	Ar. Vishnu Shriram Umbarkar	A26784	Yavatmal
64	Ar. Milap Mukesh Popat	A26785	Yavatmal
65	Ar. Bhakti Vipul Pobaru	A26786	Yavatmal
66	Ar. Vivek Gajanan Ajmire	A26787	Yavatmal
67	Ar. Sakshi Jitendra Darda	A26788	Yavatmal
68	Ar. Khushboo Sanjay Bothra	A26789	Yavatmal
69	Ar. Gopal Vijayrao Waikar	A26790	Yavatmal
70	Ar. Sakshi Ajay Yerawar	A26791	Yavatmal
71	Ar. Payal Sahadeorao Shendge	A26792	Yavatmal
72	Ar. Piyush Raju Jumale	A26793	Yavatmal
73	Ar. Shikha Rajesh Agrawal	A26794	Yavatmal
74	Ar. Radhika Vijay Jamankar	A26795	Yavatmal
75	Ar. Vaishnavi Kishor Rodage	A26796	Yavatmal
76	Ar. Saloni Anil Agrawal	A26797	Yavatmal
77	Ar. Simran Rajendra Gelda	A26798	Yavatmal
78	Ar. Mohd.Mohib Afsar Abdul Ghani	A26799	Yavatmal
79	Ar. Rakhi Mariam Johnson	A26800	Cochin
80	Ar. Anu Shishodia	A26801	Noida
81	Ar. Rahi Nagpal	A26802	Noida
82	Ar. Puneet Solanki	A26803	Rajasthan
83	Ar. Chithambara Nathan M	A26804	Tamil Nadu
84	Ar. Rithu C S	A26805	Thiruvananthapuram

85	Ar. Abhisikta Ghosh	A26806	West Bengal
86	Ar. Sunita Sachin Kadlak	A26807	Brihan Mumbai
87	Ar. Rashi Rajesh Tatia	A26808	Akola
88	Ar. Rishabh Uday Puri	A26809	Amravati
89	Ar. Madhura Shantanu Muley	A26810	Yavatmal
90	Ar. Apurva Prafull Puri	A26811	Yavatmal
91	Ar. Divyansh Khatod	A26812	Rajasthan
92	Ar. Naresh Vitthalrao Porkute	A26813	Yavatmal
93	Ar. Alpna	A26814	Haryana
94	Ar. Kamaljit Kumar	A26815	Jalandhar
95	Ar. Hyda Davis	A26816	Cochin
96	Ar. Ibinshah S	A26817	Cochin
97	Ar. Shebin Jawahar	A26818	Cochin
98	Ar. Rinosh Cherian Thomas	A26819	Cochin
99	Ar. Eby T Sunny	A26820	Cochin
100	Ar. Nasir Ali Sher Ali Shaikh	A26821	Brihan Mumbai
101	Ar. Aamir Rafi	A26822	Jammu & Kashmir
102	Ar. Tishaa Balu	A26823	Coimbatore
103	Ar. Subash M	A26824	Coimbatore
104	Ar. Sanket Surendra Navghare	A26825	Kalyan
105	Ar. Kamini Sharma	A26826	Northern
106	Ar. Lukesh Vitthalrao Porkute	A26827	Yavatmal
107	Ar. Pritha Mondal	A26828	West Bengal
108	Ar. Shalini K Vailaya	A26829	Karnataka
109	Ar. Jastin Joy	A26830	Kottayam
110	Ar. Reshma Mariyam Baby	A26831	Cochin
111	Ar. Rejitha R Pillai	A26832	Cochin
112	Ar. Vandana Viswanath	A26833	Cochin
113	Ar. Vyusti Sehrawat	A26834	Northern
114	Ar. Raghav Ajay Gupta	A26835	Nagpur
115	Ar. Aseem Ahmed	A26836	Nagpur
116	Ar. Piyush Sheshrao Pathrabe	A26837	Nagpur
117	Ar. Pratik Prashant Sarode	A26838	Nagpur
118	Ar. Gopal Pravin Gadewar	A26839	Nagpur
119	Ar. Sneha Dilip Mandekar	A26840	Nagpur
120	Ar. Namrata Tharwani	A26841	Nagpur
121	Ar. Mrinmayee Himanshu Tiwari	A26842	Nagpur
122	Ar. Anant Krishna	A26843	Uttar Pradesh
123	Ar. Rajendra Baburao Bhosale	A26844	Talegaon Dabhade
124	Ar. Deepa Thomas	A26845	Kerala
125	Ar. Aditi Abhay Mujumdar	A26846	Yavatmal
126	Ar. Jency Kuruvila	A26847	Cochin
127	Ar. Cukku Pavith	A26848	Cochin
128	Ar. Harsh Vardhan Shukla	A26849	Uttar Pradesh
129	Ar. Mohammed Hamza	A26850	Uttar Pradesh
130	Ar. Amit Verma	A26851	Uttar Pradesh
131	Ar. Brijesh Kumar Verma	A26852	Uttar Pradesh
132	Ar. Syed Ejaz Ahmad	A26853	Uttar Pradesh
133	Ar. Muzakkir Mushir	A26854	Uttar Pradesh
134	Ar. Syed Mohammed Amin Naqvi	A26855	Uttar Pradesh
135	Ar. Kabir Kumar	A26856	Uttar Pradesh
136	Ar. Syed Mohammad Ammar Jafri	A26857	Uttar Pradesh
137	Ar. Neeraj Kumar	A26858	Uttar Pradesh
138	Ar. Prasenjit Pradip Sanyal	A26859	Uttar Pradesh
139	Ar. Vasudha Kapri	A26860	Uttar Pradesh
140	Ar. Shiva Gupta	A26861	Uttar Pradesh
141	Ar. Vinay Vijayrao Lata Patil	A26862	Kolhapur
142	Ar. Serah Jerry	A26863	Cochin
143	Ar. Esme Rose	A26864	Kerala
144	Ar. Abhishek Singh	A26865	Uttar Pradesh
145	Ar. Mitali Agarwal	A26866	Uttar Pradesh
146	Ar. Dipesh Bharat Dama	A26867	Biaspur
147	Ar. Murtaza Vanak	A26868	Bilaspur
148	Ar. Somesh Verma	A26869	Bilaspur
149	Ar. Aditya Shroff	A26870	Mumbai
150	Ar. Jyoti Gupta	A26871	Uttar Pradesh
151	Ar. Madhu Rana	A26872	Northern
152	Ar.. Radhika P	A26873	Tamil Nadu
153	Ar. Akhilesh Maurya	A26874	Noida
154	Ar. Sandeep Sharma	A26875	Northern
155	Ar. Shrey Garg	A26876	Northern
156	Ar. Amit Kumar Jaglan	A26877	Northern
157	Ar. Kapil Sharma	A26878	Haryana
158	Ar. Vinod Kumar	A26879	Faridabad
159	Ar. Anish Mahala	A26880	Gurgaon
160	Ar. Gursharan Jeet Kaur	A26881	Northern
161	Ar. Shruti Dhamdhere	A26882	Northern
162	Ar. Apurva Yogesh Gujarathi	A26883	Dhule
163	Ar. Surbhi Verma	A26884	Jammu & Kashmir
164	Ar. Manoj Kumar	A26885	Northern
165	Ar. Anupma Agrahari	A26886	Uttar Pradesh
166	Ar. Yogesh Tyagi O P Tyagi	A26887	Uttar Pradesh
167	Ar. Priyanka Srivastava	A26888	Uttar Pradesh
168	Ar. Sandeep Seth	A26889	Uttar Pradesh
169	Ar. Maneesh Mahendran	A26890	Palakkad
170	Ar. Anand Kumar Tiwari	A26891	Uttar Pradesh
171	Ar. Amjith Jayan	A26892	Kannur
172	Ar. Al Shafeeque Sali Abdullahaji	A26893	Calicut
173	Ar. Shafna M	A26894	Thrissur
174	Ar. Neeraj Singh	A26895	Uttar Pradesh
175	Ar. Pranjal Deep	A26896	Uttar Pradesh
176	Ar. Rajan Dhiman	A26897	Panckula
177	Ar. Chandra Kumar A	A26898	Madurai
178	Ar. Dhatchayini S	A26899	Madurai
179	Ar. Vimal Gupta	A26900	Bareilly
180	Ar. Chinteshkumar Girishkumar Bardoliwala	A26901	Surat
181	Ar. Jose K Mathew	A26902	Kottayam
182	Ar. Pragalbh Ajay	A26903	Bareilly
183	Ar. Ammaar A Aziz Chowdry	A26904	Chennai
184	Ar. Mohammad Sohrab Khan	A26905	Uttar Pradesh
185	Ar. Kaushik Kranti Kalita	A26906	Assam
186	Ar. Mohammed Yusuf Tahera Patel	A26907	Mumbai
187	Ar. Jelitta Elizabath Sabu	A26908	Kottayam
188	Ar. Kiran Merit	A26909	Kerala

189	Ar. Suveesh M V	A26910	Thrissur
190	Ar. Naman Vipool Shah	A26911	Ahmedabad
191	Ar. Abhijeet Sharma	A26912	Uttar Pradesh
192	Ar. Akshay Rastogi	A26913	Uttar Pradesh
193	Ar. Anju Santhosh	A26914	Thrissur
194	Ar. Sandeep Kumar	A26915	Uttar Pradesh
195	Ar. Ashish Saxena	A26916	Noida
196	Ar. Gokulkrishna P	A26917	Thrissur
197	Ar. Saifudheen A	A26918	Palakkad
198	Ar. Ramthianghlimi Tlau	A26919	Assam
199	Ar. Md Inamul Hoque	A26920	Assam
200	Ar. Arjun S Kumar	A26921	Kottayam
201	Ar. Azar Naseef M	A26922	Kerala
202	Ar. Sherin S Varikkatt	A26923	Kerala
203	Ar. Riyas Saleh	A26924	Calicut
204	Ar. Mohammed Muzammil	A26925	Malappuram
205	Ar. Mohammed Nihal C	A26926	Calicut
206	Ar. Rishi Sankar Peethan	A26927	Thrissur
207	Ar. Ashick V	A26928	Malappuram
208	Ar. Mohammed Sabeel A V	A26929	Kerala
209	Ar. Fibin K Balan	A26930	Kerala
210	Ar. Jeswin Varghese	A26931	Kottayam
211	Ar. Muhammed Anjoom C K	A26932	Palakkad
212	Ar. Muhammed Jasil Khan V	A26933	Calicut
213	Ar. Jasna P	A26934	Kerala
214	Ar. Thoyyib K	A26935	Kerala
215	Ar. Kiran Dinesh TP	A26936	Palakkad
216	Ar. Hadi Haris	A26937	Calicut
217	Ar. Sainul Abid P	A26938	Malappuram
218	Ar. Gayatri Ratnam	A26939	Chennai
219	Ar. Amal Mathew	A26940	Kerala
220	Ar. Mohd Resaal Ansari	A26941	Uttar Pradesh
221	Ar. B V Shamanth Kumar	A26942	Telangana
222	Ar. Mohit Pratap Singh	A26943	Uttar Pradesh
223	Ar. Sangeeth Mohan	A26944	Kerala
224	Ar. Abhijith Krishna	A26945	Kerala
225	Ar. Bastian Saji	A26946	Kerala
226	Ar. Mathew Thomas	A26947	Kottayam
227	Ar. Hisham Abdul Hakeem Thottathil	A26948	Calicut
228	Ar. Jeevanandham E	A26949	Chennai
229	Ar. Shaniba Basheer K L	A26950	Kannur
230	Ar. Dinesh P	A26951	Coimbatore
231	Ar. Samarth Jain	A26952	Rajasthan
232	Ar. Guruprasad Pravin Meera Phansekar	A26953	Brihan Mumbai
233	Ar. Sadaf A P	A26954	Malappuram
234	Ar. Ananthu P M	A26955	Kerala
235	Ar. Mohammed Sabiq A S P	A26956	Kerala
236	Ar. Abida K	A26957	Calicut
237	Ar. Jagat Kumar	A26958	Haryana
238	Ar. Vishvas	A26959	Hisar
239	Ar. Anoop Krishnadas Prabha Bhat	A26960	Karnataka
240	Ar. Akhil Vinayak R	A26961	Palakkad
241	Ar. Arunima Saha	A26962	West Bengal
242	Ar. Vani Sharma	A26963	Mohali
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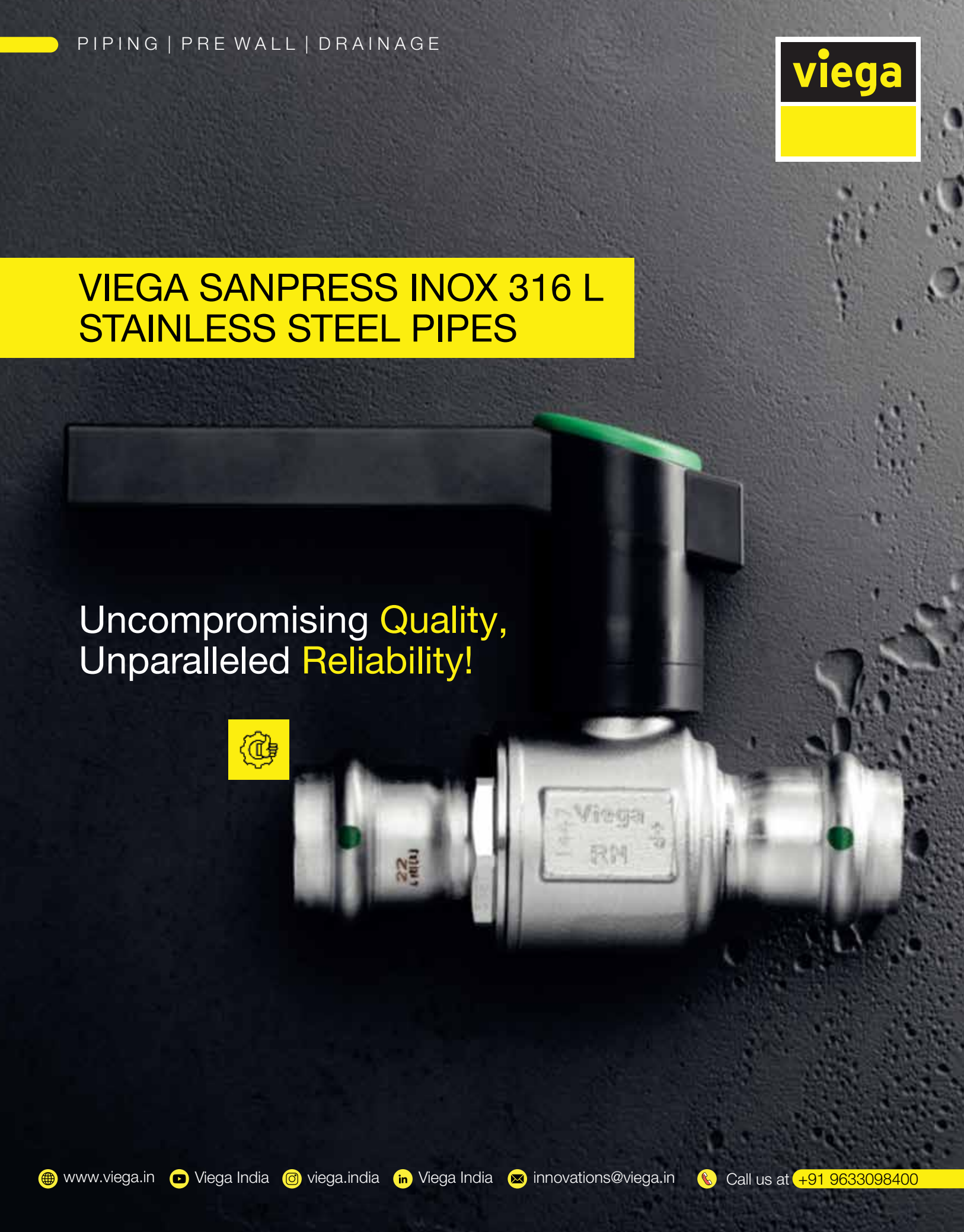

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