JOURNAL OF THE INDIAN INSTITUTE OF ARCHITECTS
PEER REVIEWED JOURNAL OF IIA ● ISSN-0019-4913
MARCH 2023 ● VOLUME 88 ▲ ISSUE 03 ● RS. 100

APPROBATION

APPROBATION

Flowkem®
Pipes • Fittings • Tanks

TÜV INDIA
TÜV NORD GROUP

No Choke up - Free Flow uPVC SWR Drainage System

Flowkem
DRAIN Flow™
DRAINAGE SYSTEM

Flowkem® Drainflow™ SWR systems include an extensive range of Soil, Waste, and Rainwater solvent weld and ringfit drainage products for commercial, industrial, housing, and commercial complexes. Flowkem® solutions for soil and waste discharge are built on the back of quality, flexibility, and product innovation backed by unrivaled installation options and the highest levels of customer service.

Flowkem® Drainflow™ Type-A pipes are recommended for use in ventilation of gases and rain water applications. While Type-B pipes are recommended for soil and waste discharge material.

Flowkem® Drainflow™ pipes are manufactured as per IS 13592:2013 and fittings as per IS 14735:1999. Available from 40mm to 160mm in solvent fit and ring fit type.

Lead Free | Corrosion Resistant | UV Resistant | Cost Effective | Leak Proof

- Pipes are manufactured from world best extruders and fittings manufactured from most sophisticated injection moulding machines.
- Qualified engineers and experienced personals in manufacturing and quality control departments.
- Advance SAP system for material receipt to finished goods dispatchment.
- Backed by thousands of satisfied customers nationwide.

PRODUCT RANGE

Pipes	:	**Ringfit (Type-A & B) :** 75 mm, 90 mm, 110 mm, 160 mm
		Ringfit Flowline (2.5 kg / cm²) : 75 mm, 90 mm, 110 mm, 160 mm
		Selfit (Type-A & B) : 75 mm, 90 mm, 110 mm, 160 mm, **(Type-A) :** 200 mm
		Selfit Flowline (2.5 kg / cm²) : 40 mm, 50 mm, 63 mm, 75 mm, 90 mm, 110 mm, 160 mm
Fittings	:	**Ringfit :** 75 mm, 90 mm, 110 mm, 160 mm
		Selfit : 75 mm, 90 mm, 110 mm, 160 mm
Solvent Cements & Rubber Lubricants	:	**Solvent Cement :** 25ml, 50ml, 100ml, 250ml, 500ml, 1000ml Tin and Cane
		Rubber Solution : 25ml, 50ml, 100ml, 250ml, 500ml, 1000ml Cane

The complete range of CPVC, UPVC, SWR-Ringfit & Selfit, RPVC-Agriculture & Water Distribution, Underground, Borewell-Column Pipe & Water Storage Tanks.

Corporate Office : **Ahmedabad** | Regional Offices : **Mumbai, Indore** | Plants : **Gujarat & Karnataka**

info@flowkempipes.com www.flowkempipes.com Follow us on :

24 Customer Care No. **1800 891 9910**

OE/FK/JIIA-ADVT/05/0423

CONTENTS

Prof. Jitendra Singh

Prof. Chandrashekhar

Prof. Parag Narkhede

Prof. Abir Bandyopadhyay

Prof. Vinit Mirkar

Prof. Rama Subrahmanian

Prof. Abhijit Natu

BOARD OF REVIEWERS

Ar. Jit Kumar Gupta

Ar. Divya Kush

ADVISORS IIA PUBLICATION BOARD

Printed & Published by Ar Lalichan Zacharias on behalf of The Indian Institute of Architects.

Designed by **November**
Printed by **Arihant Digiprint**
Shed No.1, Ground Floor, CTS No.15, 16, 20, 21 & 37, Italian Compound, Dindoshi Village, Ittbhatti, Goregaon East, Mumbai-400063.

Published at The Indian Institute of Architects, Prospect Chambers Annexe, 5th Floor, Dr D N Road, Fort, Mumbai-400001.

+91 22 22046972 / 22818491 / 22884805
iiapublication@gmail.com
www.indianinstituteofarchitects.com

Editor Ar. Lalichan Zacharias
R.N.I. No.9469/57
lalichanz@gmail.com

Cover page designed by **November**
info@nvmbr.in
www.nvmbr.in

REDBOX DESIGN STUDIO
redbox.studio4@gmail.com
www.redboxdesignstudio.in

Printer's Email
arihantdigiprint.offset@gmail.com
krish.graph2021@gmail.com

JIIA IS REFEREED JOURNAL
ISSN-0019-4913

REGISTERED UNDER SOCIETIES REGISTRATION ACT, XXI OF 1860

JOURNAL OF THE INDIAN INSTITUTE OF ARCHITECTS
VOL 88 • ISSUE 03 • MARCH 2023

www.indianinstituteofarchitects.com

EDITOR'S NOTE

As we celebrate the 25th issue of the revamped edition of the Journal, it is a time for reflection on the progress we have made and the challenges that still lie ahead. The Indian Institute of Architects has always been at the forefront of promoting excellence in architecture, and our journal plays a crucial role in furthering this objective.

Over the past 24 issues, we have covered a wide range of topics that are relevant to our profession, from sustainable design to the impact of technology on architecture, from healthcare design to hospitality design, and from built to unbuilt. Our journal has been a platform for thought-provoking discussions and debates.

Our repeated columns like Dialogue, In Memoriam, Sketches, Travelogue, Photo Essay, Different Strokes, etc. are well received by our readers. The research paper by the architects and students turns out to be a treasure house of knowledge and information.

In this 25th issue, the team focuses on the latest IIA Awards for excellence in architecture.

We continue with our regular features as well.

As we look ahead, we are excited about the possibilities that lie ahead. The challenges of meeting the rising cost of printing and publishing hard copies of the journal are still present. Maybe we need to think of changing the mode to e-copies in the future. We are confident that our journal will emerge stronger from the challenges we are facing and will continue to serve our fraternity meaningfully.

Thank you for your continuous support, and we look forward to your feedback and contributions to the journal.

Warm Regards
Ar. Lalichan Zacharias
Editor

EDITORIAL TEAM

Ar. Lalichan Zacharias

Ar. Gita Balakrishnan

Ar. Manguesh R. Prabhugaonker

Ar. Mukul Goyal

Ar. Brijesh Shaijal

Dr. Shilpa Sharma

Dr. Pratheek Sudhakaran

Ar. Tushar Sogani

PRESIDENT'S MESSAGE

Dear Members,

Greetings!

The IIA Awards for Excellence in Architecture has a long and consistent history of encouraging and recognising its members for their works across the country in various categories through a well-structured and organised annual programme. The award-winning projects are featured in this issue.

It is pertinent that every chapter and centre encourages its members to document their works, and invites them to participate in a chapter/centre - awards/recognition programme to unlock and disseminate the good work done by many architects, especially the young, so that members and students can observe, discuss, learn and critically see the benefit of the good architectural work happening currently. The chapter/centre can then shortlist works of architectural value and publish a soft copy of the works as a record for posterity. This is a much doable and essential programme which can engage members.

The inputs from our chapters and centres to the various proposed masterplans for cities/states are of utmost importance to articulate our views on the future of the built environment in relation to the various sections of the population, public utilities and conveniences, the optimum use of resources and sustainability for the future. Request the Chapters and the Centres to actively organise discussions and send considered suggestions to the respective bodies whenever necessary.

The grant of scholarships to deserving students by COA is a welcome initiative to benefit the needy students.

The next IIAPL is being hosted by IIA MP Chapter at Indore from the 12th to the 15th of April,2023. Looking forward to an active participation by all the chapters.

Best Wishes,

Ar. C. R. Raju
President, IIA

Ar. C.R. Raju
President, IIA

Ar. Vilas Avachat
Vice-President, IIA

Ar. Jitendra Mehta,
Jr. Vice President, IIA

Ar. Gyanendra Singh Shekhawat
Hon. Treasurer, IIA

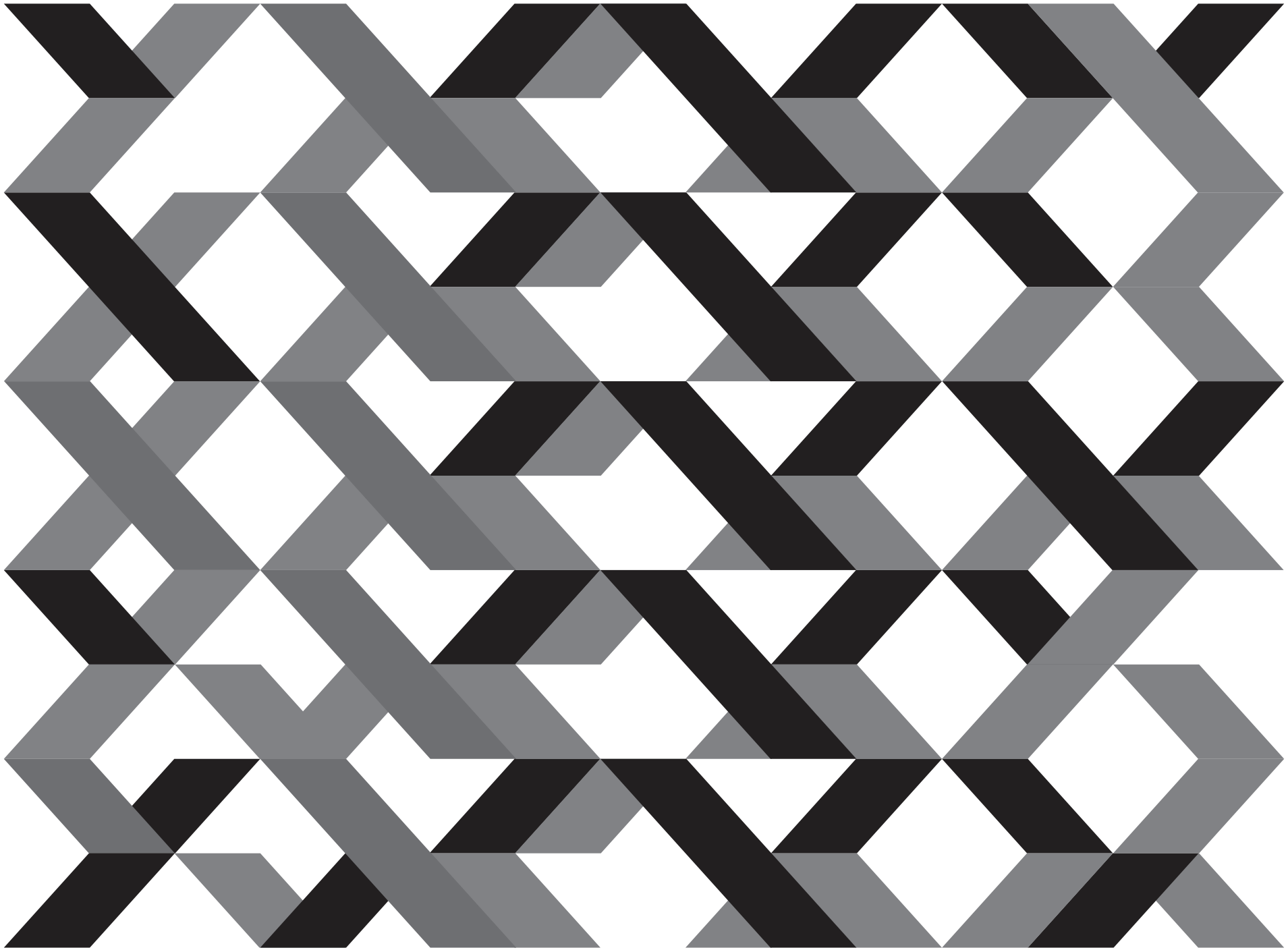
Ar. Ashutosh Kr. Agarwal
Jt. Hon. Secretary, IIA

Ar. Leena Kumar
Jt. Hon. Secretary, IIA

Ar. Satish Mane
Jt. Hon. Secretary, IIA

Ar. Divya Kush,
Immediate Past President

IIA OFFICE BEARERS



THEME

RECOGNITION OF EXCELLENCE

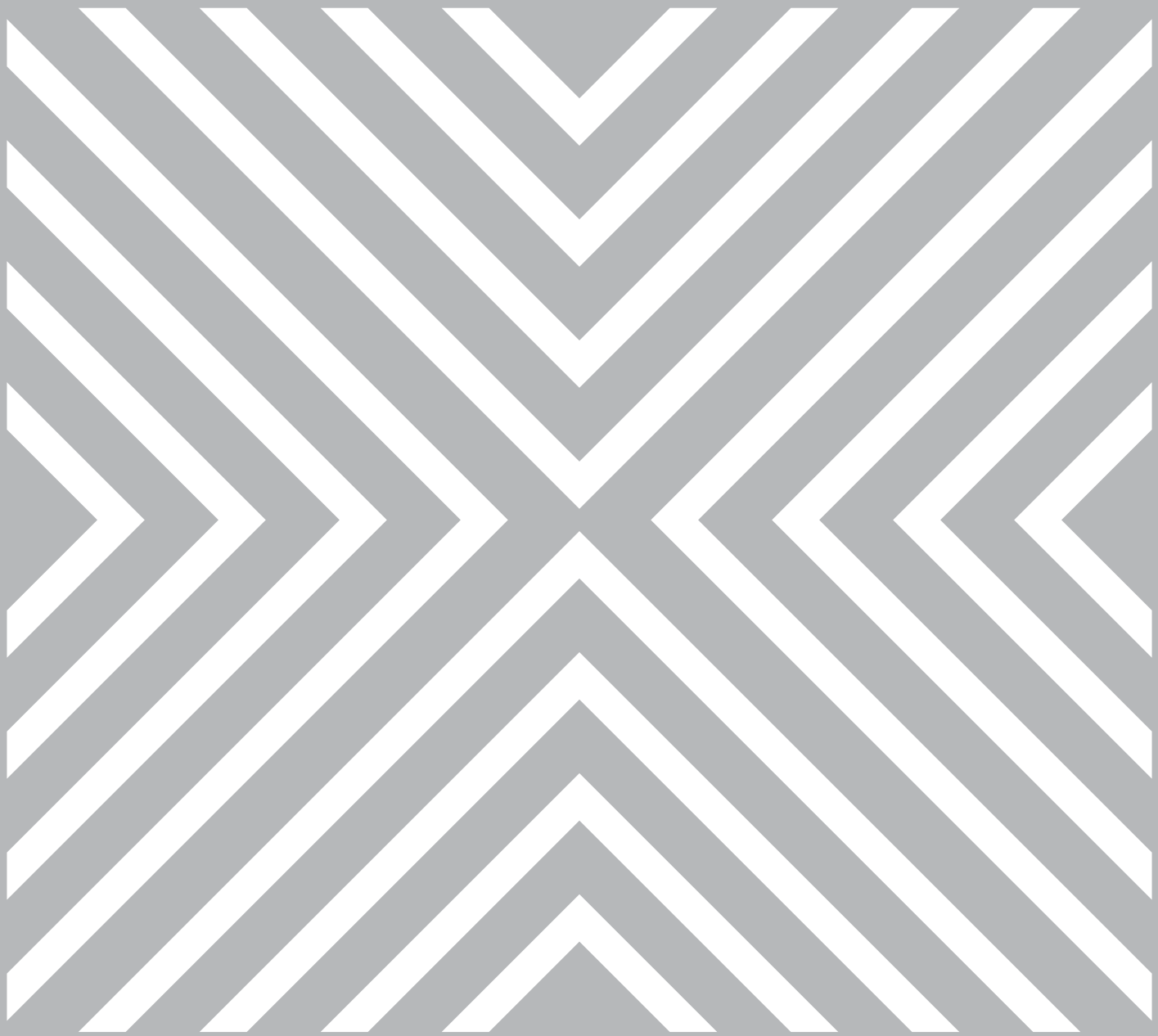
The IIA National Awards for Excellence in Architecture - time is back again. We all look forward to these 'Oscars of Architecture' and wonder who will win in the various categories. From soliciting entries from architects to the Awards Night function is a whole process of precise timing and execution, and we, on behalf of you, thank all those hundreds of architects involved in the process to make this happen.

So, when you turn the pages of the magazine, do feel the weight of the process also, while you appreciate the winners. Now, for a bit of statistics the Awards Secretariat received over 500 entries in various categories from all over India. These were further scrutinized by eminent architects-practicing and in education, invited from each state. These Jury Members selected 84 deserving entries for the Final Jury which was held in Hyderabad on 3 - 4 March 2023. This Open Jury involved the shortlisted candidates presenting their projects before a panel of national and international architects.

And then of course the glittering Awards Night so brilliantly executed by Team Hyderabad, which again, you will see in the following pages. But then all that glitters is not always gold……. says some of the Jury and most projects depict that. The entries have shown how Indian architects are now experimenting with forms and playing with sustainable and new materials alike. Gone are the days when we would hype about foreign architects. Today, looking at the Award Winners, it must be appreciated that Indian Architecture and Indian Architects are a force to reckon with.

Next time it could be you. Happy reading.

Ar. Mukul Goyal



RESEARCH

A Study of Spatial Planning for Rurban Cluster in Jammu and Kashmir Region: Establishing Relevance of Research Work

Dr. Sourovee Dutta

A STUDY OF SPATIAL PLANNING FOR RURBAN CLUSTER IN JAMMU AND KASHMIR REGION: ESTABLISHING RELEVANCE OF RESEARCH WORK

Dr. Sourovee Dutta
Assistant Professor
School of Architecture & Landscape Design, Shri Mata Vaishno Devi University,
Katra, J&K, India
sourovee.dutta@smvdu.ac.in, sourovee@gmail.com

ABSTRACT

The Shyama Prasad Mukherji Rurban Mission (SPMRM) is one of the initiatives by the Indian government for the development of rural areas through rurbanization. This paper attempts to establish the relevance of research for spatial planning of rurban clusters of the country. The SPMRM policy, one of its kind has defined the term 'rurban' in the Indian context with respect to population and its geographical locations. Through review of literature, the paper aims to narrate the goals of SPMRM and planning provisions under the scheme for the holistic development of the rurban/ rural-urban transition areas. The study tries to identify the planning process of rurban areas at the international and national level. With this background overview, the paper elaborates on a detailed framework of research, which can be applied to such settlements and proposes new, innovative methods for the analysis of their growth. The paper concludes that research in the field of spatial planning for rurban areas of the country can boost the development scenario of rural areas of the country, and has a greater impact in policy-making and contributes to the society at large.

Keywords: *SPMRM policy, rurbanization, spatial planning, rural-urban transition.*

1. Introduction

1.1 Background Overview

India, with its rapid, unprecedented urbanization creates homes for an approximately 377 million people, which is around 31.16% of the entire population of the nation. Urbanization, a modern phenomenon is perceived with better quality of life including ample provision of public utilities and social facilities, public amenities, education and employment opportunities (Jaysawal and Saha, 2014). However, in order to restrict rural-urban migration, it is equally important to develop our rural areas and semi-urban areas with provision of good quality of life. As per Census 2011, the rural population of the country is around 68% of the total population and it shows an increasing growth in the last decadal period. The Government of India (GoI) has unveiled several policies and planning schemes in recent times to empower rural India and to develop the rural settlements in a holistic manner; thus, reducing the vast rural-urban divide existing throughout the country and mitigating rural-urban migration at a large (GoI, 2015).

The *Shyama Prasad Mukherjee Rurban Mission* (SPMRM) was initiated in 2016 under the *National Rurban Mission* (NuRM) by the Ministry of Rural Development, Government of India, which is one of such flagship projects / schemes, focused on developing self-sufficient rurban areas without changing the identity of the place (Desai, et al., 2021). The 'rurban' is synonymous with suburbs, rural-urban fringe, urban sprawl, peri-urban area, etc., which indicates the rural-urban continuum, the extension of urban into rural (GoI, 2017). The report, Integrated Cluster Action Plan, defines a 'rurban cluster' as 'a cluster of continuous villages with a population of approximately 25000-50000 in plains and coastal areas and a population of 5000 to 15000 in desert, hilly or tribal areas'. SPMRM focuses on facilitating village clusters with urban amenities, without compromising in preservation of the essence of rural community life (Ramesh, 2018c). As part of the mission, an Integrated Cluster Action Plan (ICAP) needs to be prepared for each identified and delineated rurban cluster (Ramesh, 2018a).

This paper is the background research for an on-ground investigation of the spatial planning components which are taken under consideration for rurban clusters. From the earlier studies, it is observed that there is an urgent requirement to critically assess the status of on-going spatial plan preparation process including the proposed land-use, development control regulations and enforcement mechanisms for rurban clusters (Ramesh, 2018b). The paper describes the entire process of research design: the idea, settings and the methods, to be followed further. The SPMRM scheme has listed out fourteen desirable components to analyze the existing scenario of the rurban cluster. The research proposes that the deficiency level of these fourteen components in the selected clusters are required to be measured through field interviews and observations. The gaps need to be identified with respect to the service level benchmark. The prioritization of needs is to be formulated on the basis of the weighted score of each of the components. Research is also required to find out context-specific parameters for holistic development of the clusters, which can be included in the second stage of the SPMRM policy. Further, the study emphasizes the conduct of perception surveys among the citizens to identify the need of the clusters and recommends that inclusion of citizens' perspective in the plan preparation process can create a more robust approach towards a balanced development of rurban clusters.

This paper comprises of four sections: (1) review of literature on SPMRM policy and rurban cluster (2) planning process followed for the rurban areas at the international and national levels (3) formulating a framework of research for spatial planning of rurban clusters and (4) establishing the relevance of this research for policy making and larger societal impact.

1.2 Aim and Objectives

The aim of this study is to establish the relevance of research in the field of spatial planning for rural and rurban settlements. The objectives of this paper are :

(1) to study the provisions laid under the SPMRM scheme for the spatial planning of rurban clusters of the country

(2) to understand the planning process for rurban areas at International and National level

(3) to formulate a research framework for effective plan preparation and implementation at rurban clusters in India.

2. Literature Review

2.1 SPMRM Policy

The Census of India gives a dichotomous definition of urban and rural areas, which lacks in defining the peripheral growths around cities and towns. However, SPMRM, for the first time has acknowledged the existence of such peripheral developments, which neither come under urban nor the rural set-ups. Such settlements are coined as 'rurban'. Inspired from the

national-level 'PURA' model, SPMRM attempts to develop selected village clusters into a model developed area, with better quality of life like urban areas and without affecting the natural environment and essence of its social life (Ramesh, 2018d). SPMRM, one of its kind, tries to facilitate the people of rurban clusters with urban facilities without much affecting their life style. Denis and Zérah (2014) have rightly identified that India has a growing number of settlements, which are urban in character but falls under rural governance and thus are deprived from various schemes and funds available for better infrastructural facilities in urban areas. As mentioned by Kolhe and Dhote (2016), the rurban clusters delineated across the country have the potential to be developed with a balance between urban and rural characteristics. Banerjee et al. (2019) state that spatial planning of the rurban clusters in India was never the focus before. Developing rurban clusters in the country will reduce the rural-urban divide as a whole. Joshi (2019) in her paper elaborates that with the help of grassroot interventions, citizens' participation and decentralized governance, the rural and rurban settlements of the country can be transformed well and she took a case of a village in Gujarat to showcase the process of developing a model village.

2.2 Rurban Cluster

The word *'rurban'* is not new in the settlement studies. The term was first coined by C.J. Galpin in 1918 (Harms, 1939). The word *'rurbanization'* was used by Sorokin in his book *Rural-Urban Sociology* in 1929. Further, the idea was more elaborated in the book *Essays in Sociological Theory* by Parsons (1949). A similar theory is also found in *Centre Periphery Model* proposed by Von Thunen back in 1826. Myrdal and Friedmann had also explained the importance of regional planning in their *Core Periphery Linkage* theory. The word 'rurban' has appeared in the Indian planning system in recent times, however there are several studies that have been done world-wide, especially in the European context. The 'rurban' is synonymous with suburbs, rural-urban fringe, urban sprawl, peri-urban area, etc., which indicates the rural-urban continuum, the extension of urban into rural. As mentioned by Kolhe and Dhote (2016):

A new type of settlement is emerging which was once termed as conurbation by the Scottish planner Patrick Geddes……The rurban centers were first defined by Galphin in 1915 for rural land in process of conversion to urban. Many scholars have termed rurban centers as urban villages, rurban settlement, rural towns, rural urban fringe, rural urban continuum, peri-urban area, metropolitan fringe, Desakota and sub-towns.

Different terminologies have been used, which are equivalent to 'rurban' to indicate the type of settlement having a mix of rural and urban activities. A thorough documentary survey has been carried out to identify different terminologies, used across the world to define such settlement areas, as mentioned below (Table 1).

Under the SPMRM policy, 300 such clusters are identified in the country, spread across 28 states and 8 union territories, as highlighted in Figure 1. In India, as per the Census definition, there are Statutory towns and Census towns, which come under urban areas and the rest are considered as rural areas. However, only the Statutory towns get the 'municipality' status. The peripheral developments around cities and towns, which are in transition phase from rural to urban, appear under Urban Agglomeration and Out-Growths. However, the framework for spatial planning and governance for such areas were absent. As stated by Narain et al. (2014), these types of settlements grow fast and spontaneously towards urbanization due to low land price. However they face several issues and challenges like unregulated haphazard development in absence of a spatial plan, poor environmental quality, absence of adequate physical and social infrastructure, lack of public open spaces, drastic change in land-use etc. Such settlements are emerging as potential growth places, as the mega-cities and metropolitan urban areas are being overburdened and stagnant in terms of growth gradually (Gupta, 2015). Further, the 'rurban' approach by the European Union is explained in the GIZ Report: 'Rurban areas are described by the EU as functional regions, thereby introducing variable socio-economic boundaries…previously regions were defined as independent administrative boundaries.' (Matthaei, 2018). The Ministry of Rural Development, Government of India has prepared a book, *Integrated Cluster Action Plan* (ICAP) under the SPMRM mission, which elaborates fourteen desirable components for analyzing the existing scenario of the cluster, its deficiency and need analysis (Ojha, 2018). A consolidated report prepared by SPA (2019), New Delhi presents 'guidelines for model land uses, development controls and service level benchmarks along with appropriate mechanisms', which becomes a base study towards planned and inclusive rurbanization.

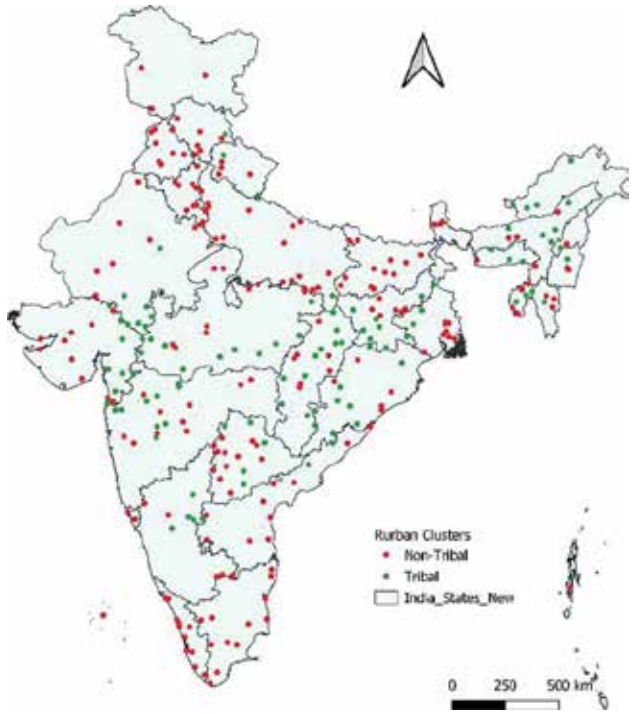


Figure 1: Location of first 100 rurban clusters identified under SPMRM scheme *(Source: Adapted from ICAP book, MoRD, GoI)*

3. Methodology

This study is based on secondary resources and a descriptive analytical approach is adopted to achieve the objectives. A thorough documentary survey is conducted and through the review of literature like books, journal papers, government manuals and reports, published and unpublished thesis; this study is trying to establish the urgent need of spatial planning at rurban clusters of India and proposes a research framework to be followed by planning authorities for effective development. This paper is the initial study of the ongoing research project, the findings of the paper shall be further applied for the planning of two identified rurban clusters of Jammu and Kashmir region: village cluster of Gole Gujral, Jammu and Khumriyal in Kashmir.

4. Results and Discussion

4.1 Planning Process for Rurban or Similar Areas at International and National Level

World-wide, there have been several attempts to capture the definition, characteristics, nature of transformation, method of delineation and measuring growth dynamics, issues and challenges faced by the transition zones between rural and urban areas. A detailed documentary survey on the planning process of rurban areas is conducted to examine the similarities and difference in approach at International and National level, as mentioned in Table 2. The outcomes are discussed below:

i) Terminology: The terminologies used across the globe vary from one part to another and there is very little research which talks about the need of standardization of terminology and definition of 'rurban' or similar areas.

ii) Criteria / Parameters for Definition: It is also observed that population is the most common criteria used to define such transition zones in different continents. Little research has been done, where physical planning parameters like built-up area, density, FSI, distance from the core city, percentage of open spaces, etc. are included while defining and delineating the rural-urban transition areas. Less research is attempted in the Indian context to include such parameters to define rurban clusters.

iii) Public Participation: A number of researchers in the Indian context explain the dynamics of 'rurban' areas of the country – the issues and challenges faced by these areas and their potentials and opportunities towards development, mentioning their growth as 'new paradigm to begin'. Detailed reports prepared by the Indian government have also illustrated the entire framework for implementation of SPMRM policy. However, consideration of the citizens' experience and their active participation in planning and decision-making process is not at all emphasized under the Scheme. Role of public participation in various urban redevelopment and renewal projects have already been demonstrated in India, however the involvement of citizens in case of rural or rurban area planning is still absent. In contrast, the planning process for rurban areas in many European countries (planning schemes like PLUREL or ESPON) follows public participation while delineating the boundary of rurban areas and proposes development projects as per the existing needs and demands of the dwellers.

iv) Components / Variables: Under the SPMRM policy, fourteen components are identified, which can be broadly categorized into economy and employment, education, physical infrastructure, healthcare and environment. These components are mostly demographic variables and more concerned about physical infrastructure. While comparing with the international scenario, they are not found enough to judge the deficiency of the village clusters. Some of the significant planning factors like housing density, road density, percentage of open space, housing condition, land use, etc. are still missing under the scheme.

v) Statistical Methods: A number of statistical methods like Urban Index (UI) calculation, Shannon's Entropy has been adopted to delineate the rurban or similar settlements by planning authorities of many countries. In this reference, very limited scholarly attempts have been made in India. However, a random selection is done while choosing the rurban clusters in the country, based on the suggestions received from the planning authorities.

4.2 Framework and Methods Proposed for Research on Rurban Cluster

Research for rurban areas needs to be carried out under the planning framework of the SPMRM mission. As the rurban clusters come under the jurisdiction of Gram Panchayat, the draft Rural Area Development Plan Formulation and Implementation (RADPFI) Guidelines of 2016, prepared by the Ministry of Panchayati Raj can be considered for the spatial planning of village clusters. The RADPFI Guidelines are required to be adopted for the preparation of land-use map, development control regulation and implementation mechanism of the selected clusters. Further studies must be conducted on the basis of both primary and secondary data sources. At the very initial stage, secondary data sources will help to identify several parameters required for the spatial planning of rurban clusters. Primary data collection should be carried out through field survey techniques like observational survey (without interacting with anyone), focus group discussion, household personal interview surveys (using questionnaires). The sample size can be determined on the basis of total population of the village cluster and in light of time and budget constraints. The primary data sources shall be the basis of statistical analysis to identify the deficiency level in the existing cluster. Adoption of a hybrid method – a mix of qualitative and quantitative research approaches should be taken, where perception surveys will be conducted and the observations, comments and statements made by the inhabitants will be recorded and later statistically analyzed to assess the need of the cluster. Perception surveys should be carried out using both the Nominal scale as well as Likert scale. The citizens' perspective will help to review, recheck and finalize the needs of the selected

area and the prioritization of their needs. Accordingly phasing and priority of project implementation can be recommended.

4.3 Innovativeness in the Research for Rurban Settlements

In recent times, several attempts have been made in the country to create a planning dataset using GIS technology for urban areas. However, the dataset of vast rural areas of the country is still not connected with such technology. Hence, there is a tremendous lacuna of data infrastructure for rural India. The planning, management and implementation of the SPMRM scheme for the identified rurban clusters also suffers due to absence of a GIS-based spatial plan. Under this policy, the rurban areas are governed by the district level authorities. At this level, there is no statutory body for the collection of village data, analysis and data management. In this context, further studies should introduce spatial planning of village clusters using the GIS platform. The research should be innovative in demonstrating GIS-based Development Plan for rurban clusters. It should aim to transform the present non-spatial plan or economic plan to geo-spatial plan for rurban clusters. There should be an adoption of integrated planning approach, which is urgently needed for village cluster planning. Planning generally takes the form of economic planning in our country. The Regional and Master Plans are prepared for the Statutory Towns, which includes land-use and transportation aspects. However, such plans and even framework to prepare the plans are not available for the rural or rurban areas. Thus, extreme disparities are observed in the development status of rural and urban areas in the country. Further studies will attempt to create an integrated, overall concept for spatial and land-use planning of the rurban cluster, which may significantly contribute towards reducing the spatial inequalities. The integrated plan will first create a spatial plan, which will be the basis of economic planning for the area.

This paper proposes to initiate cluster planning by creating a synthesis between existing "Urban and Regional Development Plan Formulation and Implementation (URDPFI) Guidelines' ' and RADPFI Guidelines. Urban areas are planned as per URDPFI Guidelines, which is also relevant for development of rural-urban fringe or transition areas. In 2016, draft RADPFI guidelines were prepared to regulate rural development. Further research may be unique by putting these guidelines together and finding a relevant guideline for spatial planning of rurban clusters.

5. Conclusion and Recommendations

Research should be envisioned to make new additions in the framework of existing SPMRM policy. The mission was launched in 2016 and the phase-1 (2016-2020) was targeted to develop 300 rurban clusters across the country in a timebound manner. The Ministry of Rural Development has further extended the program to develop 1000 new clusters as part of the phase-2 of SPMRM. While analyzing the progress of work under phase-1 at various clusters nation-wide, it is observed that few social and physical infrastructural components are being implemented in isolation. However, the Spatial Planning Component of the 'Integrated Cluster Action Plan (ICAP)', which leads to the preparation of a Master Plan / Development Plan along with a Detailed Project Report (DPR) for the Rurban Cluster is missing in the entire process. The spatial planning remains a challenging and time-consuming task for the majority of the states. Due to lack of clarity in the existing policy framework, a holistic cluster planning appears missing. Further studies are required to bridge this gap and elaborates the spatial plan making process using a bottom-up approach. Such clarity is required to be included in the policy document for better implementation of cluster development projects. Mere identification and delineation of the cluster can't fulfill the ultimate vision of rurbanization. Thus, studies in this domain are relevant for inclusion of a scientific planning process in the existing policy framework. The policy may be improved by including a bottom-up approach, geo-spatial planning, new parameters for cluster deficiency analysis and its alignment with the Sustainable Development Goals to create a sustainable rural habitat in the near future. Such research work is relevant at present times, as it will truly contribute in boosting the existing SPMRM policy by providing sustainable solutions to social, environmental, economic transformation of the rurban clusters of the country. With view of the above, this paper concludes the followings:

i) Terminology should be revised as per the international benchmark
ii) Inclusion of definition of 'Rurban' in Census of India is an urgent need to get the statutory status of the settlement.
iii) Method of identification and delineation of rurban clusters must be revised by taking inputs from the international scenario; statistical methods can be used to decide the boundary.
iv) New planning components should be included to measure the need of the settlement.
v) Emerging technologies like GIS and remote sensing should be used in the preparation of Master Plan of rurban areas.
vi) Public participation, conduct of perception survey must be integrated at all stages of the entire planning process.

As planning is a part of Social Science, public participation becomes one of the major aspects for settlement planning, whether it is an urban or a rural area. World-wide, several planning projects have been executed in consultation with the citizens. However, the majority of them are for urban areas. In India, public participation in making planning decisions is still at a nascent stage. It is pertinent to say that, the Ministry of Housing and Urban Affairs have launched the Ease of Living Index in 2018 as an assessment framework for the urban areas across the country, which boosts citizens' perception as one of the pillars of assessment. In the similar note, the proposed research framework introduces perception survey as a new addition for the second stage of SPMRM policy. The people of the rural society – the actual users -- must express their

experience with service delivery – the level of efficiency, adequacy, accessibility and reliability of public services. There should be emphasis on such public participation for the rural society, so that the people can be directly benefited from this policy and funds can be utilized in a more judicious way. Such studies will benefit rural people more from the provisions of Panchayati Raj Acts through preparation of Rural Development Plan.

Table 1: **Various terminologies used for Rurban settlements across the world**
(Source: Author's adaptation based on literature review)

No	Terminology	Description	References
1	*Rurban*	Rurban centres are small town or big villages that have both rural and urban activities. These Rurban centres have developed into popular migrant enclaves for adjacent rural villages as a result of urbanization. Rurban centres which are located halfway between rural and urban population.	(Kolhe and Dhote, 2016; Singh and Rahman, 2017)
2	*Suburbs*	The word "suburb" is not new; it originates from the Latin suburbium, which means "under the city" (Plural: suburbia). Suburbs are thus described as a location in the Oxford English Dictionary's initial definition: "The country lying immediately outside the town or city; more precisely, those residential parts belonging to a town or city that lay directly outside and next to its walls and boundaries".	(Harris, 2002; Clark, 2013; Forsyth, 2012)
3	*Rural-Urban Fringe*	The Rural Urban Fringe is a transition zone between the city and the country where rural and urban land use coexist. The dynamic fringe can be detected by observing changes in the city and vice-versa. The agricultural hinterland, where land use is changing and is characterized in relation to the metropolis.	(Mathew, 2009; Ahmad et al., 2014)
4	*Urban Sprawl*	Urban sprawl is described as leapfrog development. The urban sprawl area is the territory which is continuously losing its rural nature, however cannot be termed as urban yet. Such areas undergo several uncertainties, unorganized growth happens and land is used for various uses other than agriculture. A huge hinterland is created in-between urban and rural settlements, which is termed as Urban Sprawl.	(Gordon and Richardson, 1997; Polidoro et al., 2011; Wu, 2006)
5	*Urban Agglomeration*	An Urban Agglomeration is formed when urbanization is spreaded continuously, a town and its surrounding areas (small scattered growth areas) are combined together.	(Census of India, 2011; Fang and Yu, 2017)
6	*Peri-Urban*	Peri-urban areas are a stage of an area's development where it lies between rural and urban, having both rural and urban characteristics. A transitional zone which is viewed as being larger than the edge or boundary separating an urban settlement from a non-urban settlement.	(Ravetz, 2013; Janakarajan, 2010)

Table 2: **Various planning process – parameters and methods, adopted for Rurban or similar settlement areas across the world** *(Source: Author's adaptation based on literature review)*

No	Place / Country	Planning methods and parameters for Rurban or similar settlement	Reference
1	*Lombardy and Emilia-Romagna, Italy*	Rurban is defined w.r.t population and density. Governance is controlled by policy-making bodies at regional level. Indicators to map rurban development: demography, soil consumption, commuting data, administrative boundaries.	(Cattivelli, 2021)
2	*Patna, India*	Delineation of peri-urban areas through a statistical approach, using Urban Index (UI) calculation and grading villages based on UI, calculated out of 16 variables.	(Singh and Vyas, 2014)
3	*Turin, Italy*	Distance of the settlement from the Urban Centre is the essential condition for rurbanization. Population density, the degree of urbanization and the level of infrastructure are the primary conditions and the presence of terrain slopes / physical barriers is the secondary condition for rurbanization. On this basis, the new planning boundary is fixed and local and regional stakeholders are involved in the planning process. The Regional Territorial Plan is formulated accordingly.	(Gottero et al., 2023)
4	*Mexico City*	Socio-territorial indicators used to delineate peri-urban areas like population density, business density, road density, education years, occupants per dwelling, % of the dependent population, % of indigenous households, % of single women, fertility rate, build land %, cultivated land %, natural land %, entropy of land use.	(Cruz-Bello et al., 2023)
5	*OECD Countries, Europe*	Peri-urban or urban-rural continuum is delineated on the basis of population size and density. The degree of urbanization is measured w.r.t. contiguity using 1 sq.k.m. grid cells. 'PLUREL', a policy specifically framed to deal with issues of rural-urban regions of Europe.	(European Commission, 2020; Piorr et al., 2011)
6	*Melbourne, Australia*	The sprawl is quantified using built-up density, urbanization intensity, distribution of built-up areas across the city buffers, % of built-up area in each ring of buffer zone, Shannon's entropy.	(Shaw and Das, 2018)
7	*Toronto Region, Canada*	Greenspaces and greenbelts act as defining element of peri-urbanization.	(Bourne et al., 2003)

Acknowledgements

This paper is a part of a nine-month Minor Action Research Project, titled *The Process of Spatial Plan Preparation and Quality of Life: An Evaluation of Rurban Clusters in Jammu and Kashmir Region,* sanctioned by the Mahatma Gandhi National Council of Rural Education (MGNCRE), Ministry of Education, Government of India. The author, as the Principal Investigator (PI) of the project is pleased to acknowledge the financial assistance offered by MGNCRE to conduct this research in the context of Jammu & Kashmir region, India.

REFERENCES

1. Ahmad, J., Nusrath, A. and Shivamallu, D. (2014). A literature Survey on Rural Urban Fringe. *Journal of International Academic Research for Multidisciplinary,* 2 (1), 504-517.
2. Banerjee, A., Prasad, M., and Lata, K. (2019). A Geo-Spatial Information Model for Rurban Planning. In J. R. M. Schrenk, V. V. Popovich, P. Zelie, P. Elisei, C.Beyer (Ed.), *REAL CORP 2019 Proceedings: Is This The Real World? Perfect Smart Cities vs. Real Emotional Cities – Karlsruhe, Germany* (Issue April, pp. 45–54).
3. Bourne, L. S., Bunce, M. F., Taylor, L. E., Luka, N., and Maurer, J. (2003). Contested ground: the dynamics of peri-urban growth in the Toronto region. *Canadian Journal of Regional Science / Revue Canadienne Des Sciences Régionales, 26*(2–3), 251–270.
4. Cattivelli, V. (2021). Planning peri-urban areas at regional level: The experience of Lombardy and Emilia-Romagna (Italy). *Land Use Policy, 103*(105282), 1–13. https://doi.org/10.1016/j.landusepol.2021.105282
5. Census of India, GoI. (2011). https://censusindia.gov.in/census.website/data/census-tables
6. Clark, P. (2013). Suburbs. *Oxford Handbook on cities in History* (791-808).
7. Cruz-Bello, G. M., Galeana-Pizaña, J. M., and González-Arellano, S. (2023). Urban growth in peri-urban, rural and urban areas: Mexico City. *Buildings and Cities, 4*(1), 1–16. https://doi.org/https://doi.org/10.5334/bc.230
8. Denis, E., and Zérah, M. H. (2014). Rural-Urban Linkages : India Case Study.

9. Desai, K.M.; Bhatt, B.; Shah, J. (2021). Rurban Cluster in India under SPMRM: A Review. *Journal of Emerging Technologies and Innovative Research, 8*(6), 713–718. https://www.jetir.org/view?paper=JETIR2106661

10. European Commission. (2020). *A recommendation on the method to delineate cities, urban and rural areas for international statistical comparisons.*
11. Fang, C. and Yu, D. (2017). Urban Agglomeration: An evolving concept of an emerging phenomenon. *Landscape and Urban Planning,* 162, 126-136.
12. Forsyth, A. (2012). Defining Suburbs. *Journal of Planning literature,* 27(3), 270-281.
13. GoI, Ministry of Rural Development. (2015). *Shyama Prasad Mukharjee Rurban Mission- Framework of Implementation.*
14. GoI, Ministry of Rural Development. (2017). *Integrated Cluster Action Plan (ICAP) - National Rurban Mission.* http://www.ncbi.nlm.nih.gov/pubmed/15003161%5Cn
15. Gordon, P. and Richardson, H.W. (1997). Are Compact Cities a Desirable Planning Goal? *American Planning Association,* 63(1), 95-106.
16. Gottero, E., Larcher, F., and Cassatella, C. (2023). Defining and Regulating Peri-Urban Areas through a Landscape Planning Approach: The Case Study of Turin Metropolitan Area (Italy). *Land, 12*(217), 1–16. https://doi.org/10.3390/land12010217
17. Gupta, D. (2015). The importance of being "Rurban" tracking changes in a traditional setting. *Economic and Political Weekly, 50*(24), 37–43.
18. Harms, E. (1939). Rural Attitudes in Modern Urban Life. *Social Forces, 17, No. 4*(May), 486–489.
19. Harris, R. (2002). Meaningful types in a world of Suburbs. *Research in Urban Sociology,* 10, 15-47.
20. Janakarajan, S. (2010). Urbanization and Peri-Urbanization: Aggressive competition and unresolved conflicts - The case of Chennai city in India. *Sawas Journal,* 51.
21. Jaysawal, N., and Saha, S. (2014). Urbanization in India: An Impact Assessment Problem of Accessibility in Elementary Education by Scheduled Caste, Scheduled Tribe and Other Backward Classes: A Study in Hingalganj Block View project Urbanization in India: An Impact Assessment. *International Journal of Applied Sociology, 2014*(2), 60–65. https://doi.org/10.5923/j.ijas.20140402.04
22. Ravetz, Joe C. F. (2013). Dynamics of Peri-Urbanization. Springer Publishing Company, 13-45.
23. Joshi, S. R. (2019). Emerging model villages in India: A study of Punsari village from the state of Gujarat (India). *Croatian and Comparative Public Administration, 19*(2), 237–258. https://doi.org/10.31297/hkju.19.2.3
24. Kolhe, N. P., and Dhote, K. K. (2016). Rurban Centres: The New Dimension of Urbanism. *Procedia Technology, 24,* 1699–1705. https://doi.org/10.1016/j.protcy.2016.05.198
25. Mathew, M. (2009). Socio-Spatial Impact of Rural-urban fringe.
26. Matthaei, E. (2018). *The Rurban Concept Spatial Planning Beyond Boundaries.*
27. Narain, V., Banerjee, P., and Anand, P. (2014). The Shadow of Urbanization: *The Periurban Interface of Five Indian Cities in Transition* (Issue 68).
28. Ojha, S. (2018). Rurban Architecture in India. *SSRN Electronic Journal, February 2016.* https://doi.org/10.2139/ssrn.3236648
29. Parsons, T. (1949). *Essays in Sociological Theory* (revised ed). Collier-Macmillan Limited/London: The Free Press.
30. Piorr, A., Ravetz, J., and Tosics, I. (2011). Peri-urbanisation in Europe: Towards a European Policy to sustain Urban-Rural Futures.
31. Polidoro, M. and Lollo, J. (2011). Environmental Impact of Urban Sprawl in London, Parana, Brazil. *Journal of Urban and Environmental Engineering,* 5(1), 73-83.
32. Ramesh, B. (2018a). Characteristics of Rurbanization. International Journal of Trend in Scientific Research and Development, 2(2), 671–672. https://doi.org/10.31142/ijtsrd9468
33. Ramesh, B. (2018b). Rurbanization in Telangana. *International Journal of Trend in Scientific Research and Development, 2*(3), 364–366. https://doi.org/10.31142/ijtsrd9535
34. Ramesh, B. (2018c). Rurbanization it's Advantages and Disadvantages. *International Journal of Trend in Scientific Research and Development, 2*(2), 660–661.
35. Ramesh, B. (2018d). Shyam Prasad Mukherji Rurban Mission as an Initiative of Indian Government for Rural Areas Development Through Rurbanization. *International Journal of Trend in Scientific Research and Development, 2*(3), 1945–1947. https://doi.org/10.31142/ijtsrd11121
36. School of Planning and Architecture. (2019). *Framing Guidelines for Model Land Uses , Development Controls , and Service Level Benchmarks with Appropriate Enforcement Mechanisms for Rurban Clusters Submitted to Government of India* (Issue March). http://rurban.gov.in/doc/Model Planning Guidelines for Rurban Cluster.pdf
37. Shaw, R., and Das, A. (2018). Identifying peri-urban growth in small and medium towns using GIS and remote sensing technique: A case study of English Bazar Urban Agglomeration, West Bengal, India. *Egyptian Journal of Remote Sensing and Space Science, 21,* 159–172. https://doi.org/10.1016/j.ejrs.2017.01.002
38. Singh, C. and Rahman, A. (2017). Urbanizing the Rural: Reflections on India's National Rurban Mission. *Asia and pacific policy study,* 5(2), 370-377.
39. Singh, D., and Vyas, A. (2014). Planning Strategies for the Development of Peri-Urban Area The Case of Indore Peri urban Area. *International Journal of Scientific and Engineering Research, 5*(7), 27–32.
40. Wu, J. (2006). Environmental Amenities, Urban Sprawl and Community Characteristics. *Journal of Environment Economics and Management,* 52, 527-547.

Dr. Sourovee Dutta, a Gold Medalist from CEPT; is presently working as Assistant Professor at the School of Architecture & Landscape Design, SMVD University, Katra, J&K. She has more than 10 years of professional experience. She has published several papers in International Scopus indexed journals and presented 20+ papers in National and International conferences. Presently she is involved in a minor action research project, funded by MGNCRE, MoE, GoI.

CALL FOR ARTICLES PROJECTS PAPERS

Journal of the Indian Institute of Architects invites original and unpublished contributions from members (academicians, practitioners and students) under the three categories given below. In order to be accepted for publication, all material sent in these categories should be sent in the following components:

❶ MS Word document file with text only. Please do not format it in anyway. The numbered captions for all the images will also be in this document.
❷ Folder with all images (minimum 300 dpi), numbered according to the captions given in your text file
❸ Photograph of the author/s (minimum 300 dpi)
❹ Author biodata – Maximum 50 words.
❺ PDF (optional)– showing the intended layout. This pdf should include text and all images, with numbered captions.

Please note:

❶ When you correspond with us, please give your email id (that you regularly use) and your cell no. (preferably with whattsapp).
❷ Please mention your IIA regn. No.
❸ The review process takes anywhere between 4-6 weeks. Since it may not be possible to respond to all authors who send in their work, we will definitely revert if and when your work is accepted.
❹ JIIA does not charge any fees for publication of any professional or academic work unless specifically mentioned by the Editorial Committee.

Category 1

Essays, interviews, articles (1500- 2500 words), book reviews (600 and 750 words), travelogues, sketches and photo-essays in the areas of architecture, planning, urbanism, pedagogy, heritage, technology, ecology, theory and criticism, visual design, practice or any other relevant subject pertaining to the built environment. (Details of the format will be available on the JIIA website given below).

- For a design project, please include the "Fact File" with the following details : Project Name, Location, Plot area, Total built up, Structural consultants, Project completion. Also please give the photo captions and credits. Please ensure that the image is referred to within the text. For eg, "As seen in Figure 1…". This is essential for the layout.
- For design projects, plans and sections of the project are desirable along with the photographs.
- Book reviews should be only of books by Indian authors. please include the "Fact File" with the following details : book title, author name, publisher, year of publication, ISBN, language the book is written in, genre (technical/ fiction/ etc.), no of pages, dimensions (in cm), type (Kindle / paperback/ hardback), available at (amazon.in/ flipkart. com/ others).
- Please send a write-up of about 200-300 words along with sketches and photo-essays.
- Further, it is important that along with the manuscript, we receive an undertaking from you that the stated architect/ architectural firm is the author of the architectural projects mentioned in the article, and that IIA and JIIA is in no way responsible for any matter or dispute arising out of the publication of the same.

Category 2

Summaries of dissertations (2000-3000 words) at the level of B.Arch. & M.Arch., and theses at the Ph.D. level. The Guide for that work will be mentioned as the Co-author. (Format will be available on the JIIA website given below).

Category 3

Research papers (2000-5000 words) in the prescribed format. The research may be based on their ongoing or completed research. (Format will be available on the JIIA website given below). All contributions in this category will be peer-reviewed before being accepted for publication by conducted by academic experts of repute.

Note for Authors:

As per the UGC Draft Regulations for Minimum Standards and Procedures for Award of Ph.D. Degree 2022 (Clause 9.3) research papers published in 'refereed / peer-reviewed' journals are acceptable. JIIA being a refereed / peer-reviewed journal, it will now be able to stand acceptable and recognised for publishing by researchers for their research papers in JIIA and may use the same for the relevant purpose.

Category 4

Contributions from Chapter Correspondents

(a) *Chapter News:* This includes various interesting activities from the Centres of your Chapters (maxm. 500 words for the news from the *entire* Chapter). All material sent should be sent in the following two components :

❶ MS Word document file with text only. Please do not format it in anyway. No pdfs will be accepted. The numbered captions for all the images will also be in this document. This should NOT contain any images.
❷ Folder with all images (minimum 300 dpi), numbered according to the captions given in your text file. (b)Projects: Identify outstanding architectural projects of members and send them to JIIA Team to consider for publication. (Please follow the design project requirements as given in Category 1)

© *Obituaries :* Obituaries of IIA members should consist of the photograph of the departed soul, the dates of birth and death and a short 50-word note.

Note

❶ Please email all papers and articles through the Chapter / Centre or directly to jiiaeditorial@gmail.com.
❷ Format is available on the JIIA website.

IIA NATIONAL AWARDS 2021

FOR EXCELLENCE IN ARCHITECTURE WINNERS

IIA NATIONAL AWARDS 2021 FOR EXCELLENCE IN ARCHITECTURE WINNERS

PROJECT CATEGORY	WINNER	COMMENDATIONS	
Commercial Projects - A	Ar. Bijoy Ramachandran	-	-
Conservation Projects	Ar. Ainsley Lewis	Ar. Kamal Malik	Ar. Kavita Sastry
Healthcare Projects - A	-	Ar. Murali Murugan	-
Hospitality Projects	Ar. Avinash Ankalge	Ar. Sandeep Umapathy	-
Industrial / Infrastructure Projects	Ar. Juhi Mehta	Ar. Kush Patel	-
Institutional Projects	Ar. Kishore Panikkar	-	-
Interior Design Projects - Non Residential - A	Ar. Rahul Gore	Ar. Vivek Singh Rathore	-
Interior Design Projects - Non Residential - C	Ar. Keta Shah	-	-
Interior Design Projects - Non Residential - D	Ar. Kalapi Buch	-	-
Interior Design Projects - Residential	Ar. Pinkish Shah	-	-
Landscape Projects - A	-	Ar. Sujoy Das	-
Landscape Projects - B	Ar. Anuradha Puri Rathore	-	-
Residential Projects - A	Ar. Kamal Malik	Ar. Sunil Humane	Ar. Alvin Albert
Residential Projects - B	Ar. Arjun U Nambisan	-	-
Research Papers	Ar. Nina Lazar & Ar. Chithra K	Ar. Akshaya Lakshmi Narsimhan & Ar. Sneha Sridhar	-
Socially Responsible Architecture	Ar. Vivek PP & Ar. Nishan M	Ar. Vinod Cyriac	-

NOTE FROM THE CONVENORS

Ar. Vilas Avachat
Vice President, IIA

Ar. Leena Kumar
Jt. Hon. Secretary, IIA

IIA National Awards for Excellence in Architecture 2021
Hyderabad, 23 March 2023

The *IIA National Awards 2021 for Excellence in Architecture,* the most coveted architectural award of our nation, had its Awards Night hosted by the Telangana Chapter at Hyderabad on 3rd & 4th March 2023. This award cycle enjoyed 473 valid entries in 15 categories.

The *IIA Awards for Excellence in Architecture* is a flagship event of the Institute and is anticipated with much enthusiasm every year. Architecture is the only art/ science form, depending on how you perceive it, that has a direct impact on the quality of human life. The IIA Awards are therefore of utmost importance to the Institute, to act as an instrument that can inspire the profession to shape the future of our built environment.

The Awards included projects from the sectors of Residential, Commercial, Institutional, Healthcare, Industrial and Infrastructure, Interior Design, Hospitality, Recreation, Conservation, Landscape, Unbuilt projects, Socially Responsible, and Research Papers. It witnessed a plethora of ideas, form, materials, and an interplay of all the elements that form Architecture. The first stage jury held at Mumbai, at the *IES College of Architecture,* comprised 23 eminent jury members, including 8 jurors for the research category, that spent the whole day together deliberating on the entries received and its evaluation, to shortlist to 56 numbers for the final jury. It was an arduous task considering the high level of entries received and the meticulous review it required. This year saw a substantial increase in the no. of entries received for the research papers category, a very good pointer to the direction and diversification of the profession of architecture in our country.

The Final Jury and Awards Night took us to Hyderabad to the Ramoji Film City, spread over 1666 acres of land. A befitting location for Architectural Awards, at the largest and most meticulously maintained film studio complex in the Nation. It made an interesting backdrop to the Awards, to witness the creation and built form of film sets that are repeatedly used by the film industry, and look different in each film!

The Grand Jury comprised 15 members that were divided into groups of 3, to conduct live juries for any delegate to witness and attend on 4 March 2023, from 9:30am to 4:00 pm. The open juries were held concurrently in five halls to cover 15 categories. The Final Jury began with a closed jury meeting the previous day, held for the jury members, to discuss and familiarise themselves with the short-listed projects, which designs were thereafter open for the public to see and appreciate.

Veteran architect, Ranjit Sabikhi, delivered the key note address to the delegates on the 3rd evening, emphasising the need for architects to be responsible and ethical to the profession.

The results of the *IIA Awards 2021* was announced on the evening of 4 March at the Awards Night, with jury comments for the submitted entries of every category.

With the culmination of another cycle of the *IIA Awards for Excellence in Architecture,* we witnessed the best of designs that Indian architects have to offer, the march of time, the emergence of young practices, the germination of new ideas, and the hope to inspire architects to shape our environment in the spirit of harmony towards a better quality of life.

FIRST PHASE JURY MEMBERS FOR OFFLINE JURY AT IES COLLEGE MUMBAI

Ar. Premnath

Ar. Gaurish Chandawarkar

Ar. Vinit Mirkar

Ar. Vijay Pande

Ar. Milind Nulkar

Ar. Shekhar Bagool

Ar. Jayant Sinari

Dr. Pratheek Sudhakaran

Ar. Mukul Goyal

Ar. Akhtar Chauhan

Ar. Yashwant Pitkar

Ar. Urmila Amar Rajadhyaksha

Ar. Rajeev Dalvi

Ar. Nitin Killawala

Ar. Vinita Vartak Sapre

JURY MEMBERS FOR RESEARCH PAPERS (ONLINE)

Ar. Abir Bandyopadhyay

Ar. Rama Subrahmanian

Ar. Abhijit Natu

Ar. Parag Narkhede

Ar. Vinit Mirkar

Ar. Yogesh Garg

Ar. Roopal Deshpande

Dr. Shilpa Sharma

FINAL JURY OF IIA AWARDS 2021 AT RAMOJI CITY, HYDERABAD

Ar. Premnath

Ar. Nitin Killawala

Ar. Milind Nulkar

Ar. Vinit Mirkar

Dr. Shilpa Sharma

Ar. Suvarna Sathe

Ar. Sarosh Wadia

Ar. Abhijit Natu

Ar. Anujay Vootla

Ar. Yeshwant Ramamurthy

Ar. Gita Balakrishnan

Ar. Aparna Narasimhan

Ar. Prakash Deshmukh

Ar. N Mahesh

Ar. Vijay Narnapatti

NOTE FROM THE HOST

IIA National Awards for Excellence in Architecture 2021
At Hyderabad, Telangana. March 3 & 4 2023

The Indian Institute of Architects (IIA) provides a unique platform to recognise the excellence in architecture across India. The institution has conducted thirty annual events until the 2020 pandemic, where the best works were recognised and awarded to inspire, appreciate, and honor the creative abilities of its members on a national platform.

The much-awaited 31st 'IIA National Awards for Excellence in Architecture 2021', was organized by the IIA Telangana chapter at Hyderabad's popular destination, the Ramoji Film City, on the 3rd and 4th of March, 2023. The Telangana Chapter took up the challenge of conducting the event in quick succession after the IIA National Conference '21, which was held successfully in May 2022 at the HITEX Convention Center, Hyderabad.

The awards committee consisted of Ar. Vilas Achavat (Vice President IIA) as convenor, Ar. Muralidhar Reddy as chairman, and Ar. Leena Kumar as co-convenor. The committee received an overwhelming 473 entries across fifteen award categories. A total of 56 projects were shortlisted for further judgement within the 15 categories, which comprised residential, commercial, health, hospitality, industrial, conservation, and research papers in architecture. The presentation of these awards is an annual activity of the Institute and carries a plaque and citation in each category. The two-day event brought together the Awards Committee members, Jury members, applicants of the short-listed projects, academics, and delegates across the country. Day 1 was the inaugural ceremony. The second day hosted the exhibition and an open presentation of the 56 shortlisted projects, a tour of the Ramoji Film City, followed by the award ceremony and dinner.

The inaugural ceremony
The evening of March 3, 2023, started on a spiritual note with a Kuchipudi classical dance performance by Ms. Srividya Sripathi. The lighting of the lamp by the organizing committee was followed by a welcome address by IIA-Telangana Chapter Chairman Sri.Udaya Shanker Doni welcomed all the delegates, participants, and national office bearers. He thanked the National and IIA Awards committees for giving the Telangana Chapter the opportunity to host the event, and he promised that this venue and the arrangements made would leave a lasting impression on all the attendees. This was followed by an address by Ar. C.R. Raju, President IIA. The President, while addressing the gathering, commended the quality of work displayed by the new generation of architects and remarked that the future of architecture in India appeared to be in safe hands. He also emphasized that the existing members should prevail upon the large group of non-members to join the IIA and increase the size of the Institute. The highlight of the evening was a keynote address by the eminent veteran architect Sri. Ranjit Sabikhi. His thought-provoking expression of concerns and ways forward for the future of architecture education and practice in the country ignited a fresh thought process. The audience was enriched by his vast experience in the field.

Presentation of the shortlisted projects
The second day of the event saw a large gathering of delegates, and the final jury was conducted, wherein the shortlisted architects presented their works and explained their design concepts to the eminent jury members. Each jury panel consisted of three eminent architects from across the county who were specialists in the category of projects.

The Ramoji Film City tour
In the post-lunch session on day 2, the committee organized a tour of the Ramoji Film City for all the members, which added a spark of joy to one and all. Visits to movie settings such as the Bahubali movie set, the exotic bird park, the butterfly garden, and the film city's experience center were the highlights of the tour.

The Exhibition Gallery
The event saw two exhibitions at the venue. The first was a display of the 56 projects shortlisted for the national awards. The exhibition was open to the public on Day 2. The second was the exhibition of products by the event sponsors, Goldmedal, Technorail, SSI India, and Polywood. The members expressed positive feedback about the exhibits and the technical specifications provided by the sponsors. The sponsors generously shared the literature and souvenirs with all the delegates.

The Award Ceremony
The evening of March 4, 2023, started with a classical performance by Ms. Sathwika, a student of architecture who performed the Kuchipudi dance. The performance was a true expression of passion and dedication to the art. As the time drew closer, the enthusiasm and excitement grew, and the much-awaited moments finally arrived. While announcing the awards, the Jury members, Ar. Premnath, Ar. Nitin Killawala, Ar. Milind Nulkar, Ar. Vinit Mirkar, Ar. Shilpa Sharma, Ar. Yeshwanth Ramamurthy, Ar. Anujay, Ar. Suvarna Sathe, Ar. Sarosh Wadia, Ar. Abhijit Natu, Ar. Vijay Narnapatti, Ar. Gita Bala Krishnan, Ar. Aparna Narsimham, Ar. Prakash Deshmukh, and Ar. N Mahesh, congratulated all the shortlisted members, and expressed the feeling that the decision to select winners was the toughest to make. They appreciated the highly competent presentation of works.

The award ceremony also hosted presentations by the sponsors, Goldmedal, Technorail, SSI India, and Polywood. The presentations were worthy takeaways for the members, who were studded by the technical specifications of the latest products and various possibilities for application in future architecture projects. The evening ended on a happy note as we celebrated the awards over dinner and drinks with friends and fraternity members.

The Gala Evenings
After all the hard work, the gala evenings provided the perfect ambience for professional and personal camaraderie, and had fellowship dinners with delicious Hyderabadi cuisine. Especially on day two, the dinner and the celebration went into the late hours of the night. The two-day event was a great experience that will be etched in the memories of the attendees forever, making them look forward to more such events, thanks to the organizers who worked relentlessly throughout.

After the customary photo shoots, the event concluded with a vote of thanks by

Ar. G. Shankar Narayan
Vice-Chairman, IIA-Telangana Chapter


KEYNOTE SPEECH: IIA


NATIONAL AWARDS
THE INDIAN INSTITUTE OF ARCHITECTS
TELANGANA CHAPTER
03 & 04 MARCH, 2023


TELANGANA CHAPTER
Proudly Hosts


THE INDIAN INSTITUTE OF ARCHITECTS
TELANGANA CHAPTER
Proudly Hosts
NATIONAL AWARDS


THE INDIAN INSTITUTE OF ARCHITECTS
TELANGANA CHAPTER

GO NATIVE

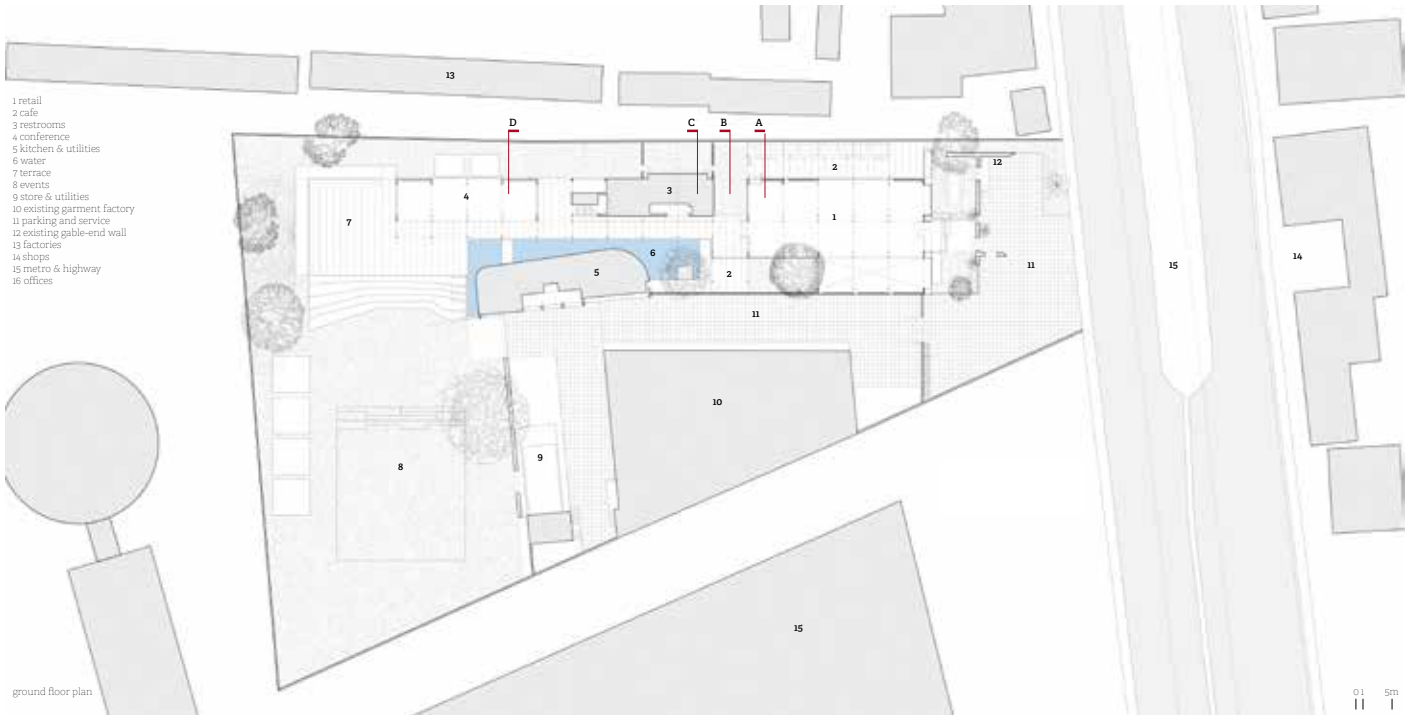
Bangalore

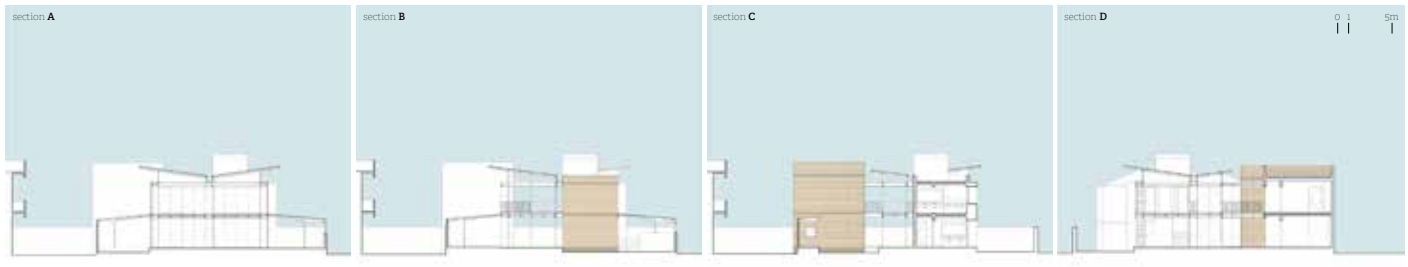
Architect
Ar. Bijoy Ramachandran

Jury Comments: The site is addressed sensibly. The open longitudinal axis directs into the garden behind without revealing too much in the beginning. The service areas are accessible but screened by a brick wall. Detailing of metal is tasteful. Although the design program is limited, the final product is beautiful.

A decrepit brick wall of an earlier factory site announces the Go Native store in Bangalore and leads you to a green secret space that responds to the brief for a place to unwind – generous, open, filled with light and air, and flexible. Go Native is a home store cum restaurant that promotes sustainable and responsible living, the brainchild of Anvitha Prashanth, a young Bangalore-based entrepreneur.

The site has a small frontage onto a very busy thoroughfare, which now also has an overhead Metro line running. There are numerous small commercial establishments across the road from the site. These are housed in nondescript newer buildings – simple low-rise structures with glass facades. With not much architectural context to respond to, the building draws references from the memory of this erstwhile industrial area. The site used to have a double bay, linear, line-manufacturing facility. Traces of this old building existed and the proportions of the site suggested a series of such long buildings. The existing trees were on the peripheries of the old factory and these were incorporated into the arrangement of the plan, anchoring nodes within this long sequence of enclosures.



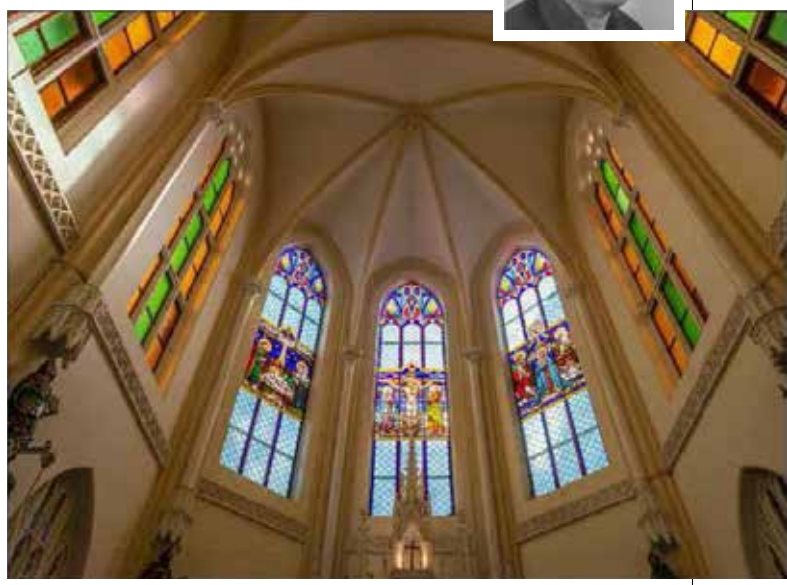


The brick buildings house the main kitchen, staff areas, storage and restrooms. They are designed to present surfaces without any fenestration onto the primary spine. This is done to heighten the contrast between these buildings and the metal structure (which is in a way - all fenestration). The brick structure along the western side of the primary spine is laid out at an angle to this spine - inflected to reveal, slowly, the secret garden at the rear of the site. One discovers this as one gets deeper into the building.

A lot of our recent work is predicated on the idea of spatial composition and participatory space. We are interested in what Louis Kahn calls 'a society of rooms'. Our plans are organised to heighten the quality of the space between program - that which is unlabeled and incidental. How does one articulate this to engender congregation and a sense of community? In Go Native too the primary spine though linear has varying thickness, volume and extent of enclosure to accommodate different kinds of inhabitation.

Our other preoccupation is the notion of contrast - in terms of spatial experience, materiality, structure, porosity and so on. By modulating the composition of contrasting conditions we heighten the sense of these qualities. The trick is the tolerance between these to achieve balance and a sense of calm.

Land Area: 5,200 sqm
Built-up Area: 1,700 sqm



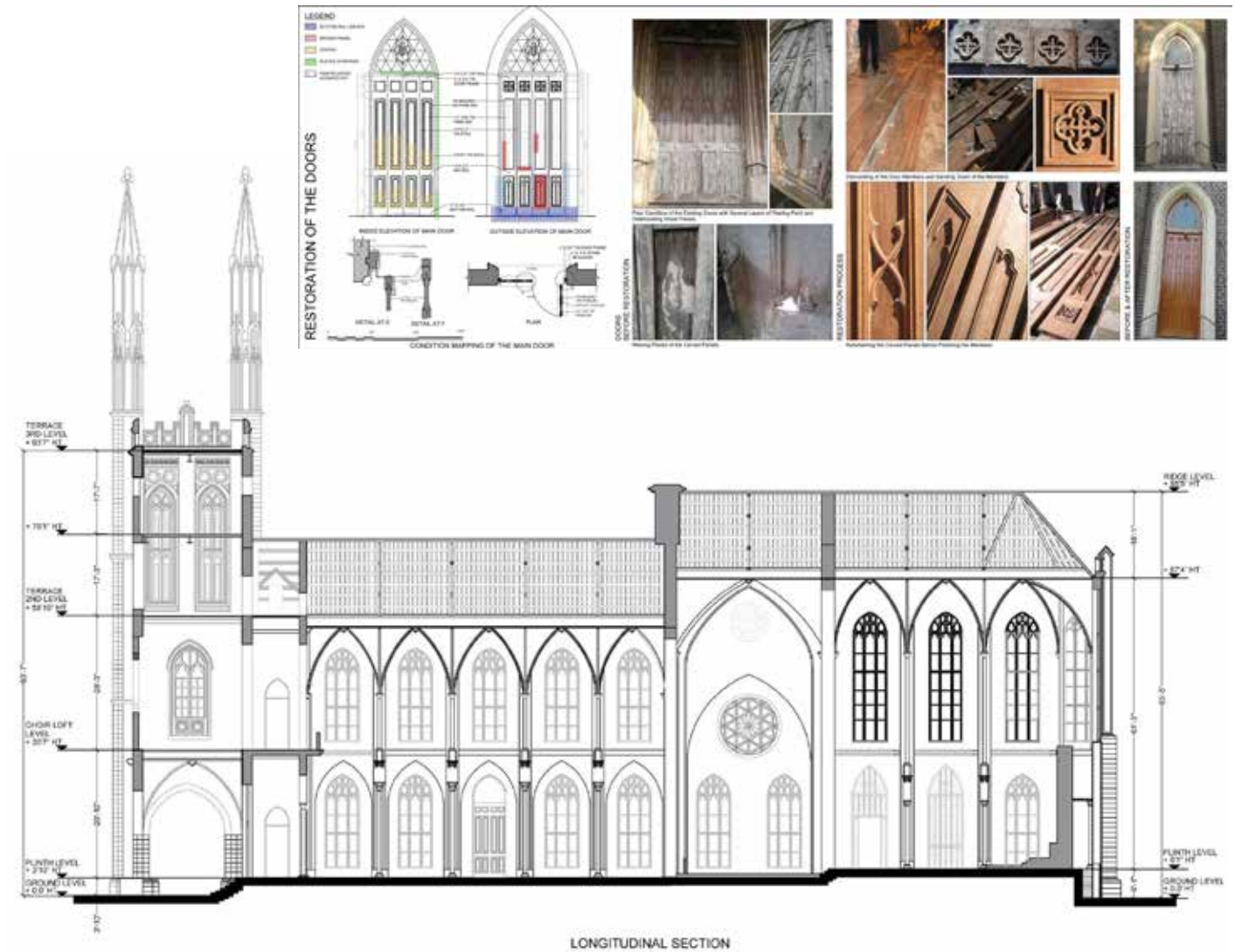
RESTORATION OF OUR LADY OF GLORY CHURCH

Jury Comments: Systematic and accurate documentation has evolved into a sound comprehension of the technical issues involved in stabilizing the structure and restoring the aesthetic elements of the church.

Mumbai

Architect
Ar. Ainsley Lewis

Our Lady of Glory Church is classified as a grade IIB heritage building. The foundation stone of the church was laid on 29th January, 1911 and the construction was completed in 1913. The bell tower of the church still holds an iconic position in the fast-changing landscape of the city, visible to commuters alighting from the train station and to those passing by on the flyover. As the building has been an active church in daily use it was difficult to secure time to undertake repairs of the entire building. The condition of the church prior to restoration was the result of a number of piecemeal beautification measures carried out over the years to provide immediate relief without addressing the root cause of the damage. Following a comprehensive documentation of the entire building the following main problem areas were isolated and treated.



1. Restoration of the roof
Visually there was sagging observed along the ridge line of the South transept. The concentration of the rain water outlet and its subsequent blockage; located at the junction of the truss and the wall had led to the seepage of rain water into the roof, causing the decay of the wooden truss, compromising the structural integrity of the roof. The truss had to be lifted up using a block and tackle system. While it was hoisted to its original position, rehabilitation had to be undertaken with epoxy coated mild steel metal 'c' channels at both ends of the truss. After restoring the deteriorated members, layers of marine ply and tarfelt were laid before the battens to seal the roof from moisture.

2. Restoration of the stained glass panels
The stained glass panels near the altar were very intricate and required a lot of lead lining within the panel, increasing the overall weight of the windows. Over the years the load exerted on the lower panes had caused them to buckle. The mild steel framework of the stained glass had also corroded owing to the ingress of water. A duplicate mild steel frame was made to provide additional strength and support so that it does not buckle over time. The panels were restored and cleaned and the broken glass pieces were replaced. The stained glass panels within the traceries were also restored and new panels were designed for the missing windows in the bell tower.

3. Restoration of the doors and windows
The doors were repaired in a piecemeal fashion over the years. They were dismantled, new members were made and mouldings were carved wherever necessary and the doors were reassembled. The existing windows were all pivoted allowing the ingress of rainwater. All the windows were dismantled and the pivoted shutters were all converted to side-hung hinged shutters. The adhoc variety of glass panes were then replaced with similar panes of transparency and texture.

4. Slab in the bell tower
The first floor slab in the bell tower was originally constructed with brick jack arches. Sometime in the past this system was done away with and plain cement concrete was poured in place. There were visible signs of hogging. Since this space was under-utilised and a false ceiling covered it from below, it was reconstructed using aerated concrete slabs especially manufactured for the space.

The sensitive interventions enhanced the architectural features of the church to ensure that the building regains its importance befitting its stature. The conservation of the church restores the church to its past glory cementing its place in the ever-evolving fabric of the city.

ICE FACTORY BALLARD ESTATE

Mumbai

Architect
Ar. Kamal Malik

Jury Comments: Historical and culturally sensitive adaptive reuse of a degenerated space marks the success of this project. Noteworthy is the drama of skylights and the strong tactility of the original brickwork. The banyan tree regained its primordial place.

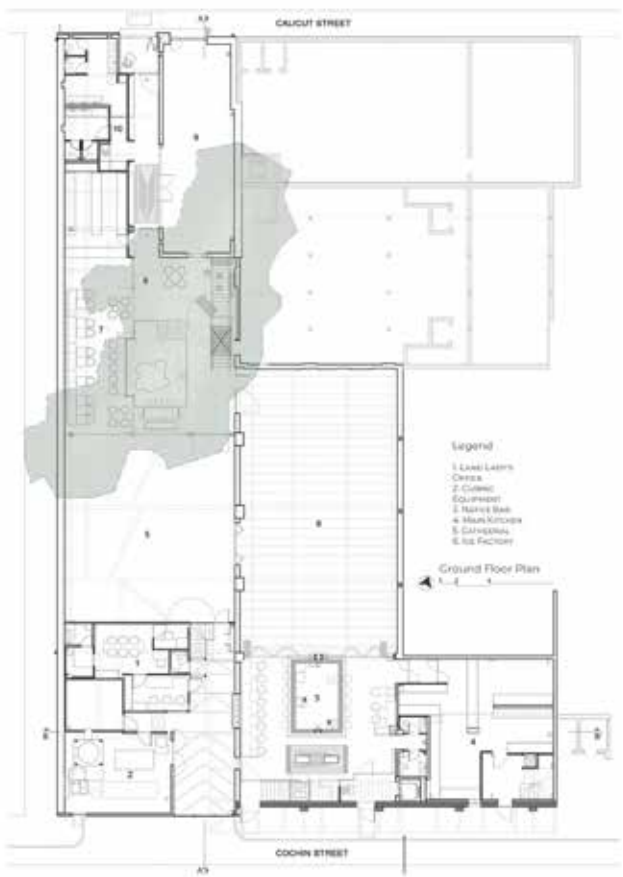
The Ambico Ice factory is located in Ballard estate, in the heart of Mumbai's heritage precinct. Over the years, as the ice-making operations have been shifted out to Navi Mumbai, parts of this industrial space have been leased and converted into a restaurant, a gallery, and a play-house for children.

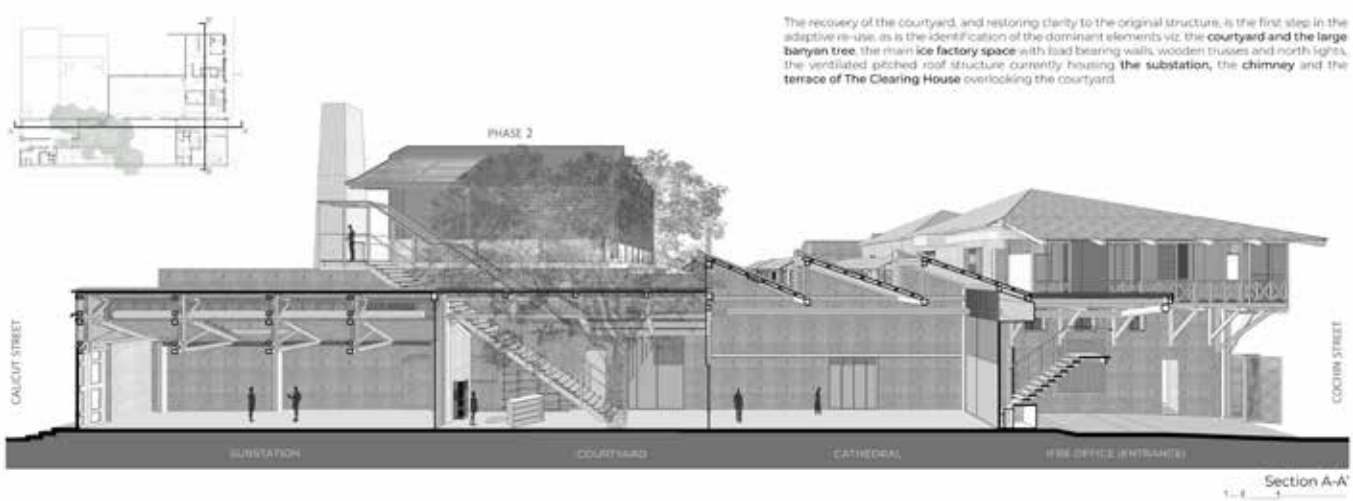
Effectively, its repurposing has already begun.

As the last of the spaces is now being vacated, we have the opportunity to examine this space holistically, and to contemplate new synergies.
We imagine this as a space that merges various cultural and design activities, as a vibrant mixed use insert into a predominantly commercial environment.

Flexible space for art, for exhibition, event space, performance, gathering, and food. Essentially a space for encounter, all sitting under the banyan tree and within structures steeped in history. The drawing archives revealed a continuous courtyard connecting Calicut and Cochin Street which is currently cluttered with ad-hoc structures and metal roofs, physical evidence of the apathy with which these beautiful fragments of history are treated.

The concept of IFBE revolves around the central courtyard with the Banyan Tree. This court is really a confluence and a dissemination point for the three main zones of IFBE, the





Ice-Factory, the Cathedral and the Substation. The court is punctuated by the Banyan Tree cafe and the shop which form an interactive binding and inclusive element for IFBE. The coherence of the load bearing, wooden- trussed, north- lit interior spaces have been somewhat vitiated by successive divisions and alterations.

The recovery of the courtyard, and restoring clarity to the original structure, is the first step in the adaptive re-use, as is the identification of the dominant elements viz.

A. The courtyard and the large banyan tree
B. The main ice factory space with load bearing walls, wooden trusses and north lights
C. The ventilated pitched roof structure currently housing the substation.
D. The chimney
E. The terrace of The Clearing House overlooking the courtyard.

There is no need to search for a new language, the triggers lie within the existing architecture.

The challenge lies in mediating the connective tissue that binds these elements and in finding ways to extend the existing elements to create flexible shaded spaces that develop around the banyan tree.

The essence of this merger lies within the balance between the old and new, the honesty of the suturing, and the fragile, almost tenuous relationship between the "found" and the "made".

MURPHY TOWN SCHOOL

Jury Comments: The strength of this project was the collaboration with other disciplines. This resulted in a charming school that truthfully evoked the memories of the past.

Ulsoor Bangalore

Architect
Ar. Kavita Sastry

Government kannada higher primary school located at Ulsoor Bangalore, started in the year 1913, setting firm grounds for more than 150 students who grow and learn under the guidance of the Head mistress Mrs. Malathi. Aswani Charitable Trust –an NGO took up the funding aspect of this project

Completing its 106 years of existence the structure stands still but remains remote due to lack of workability caused by the depletion of the building.

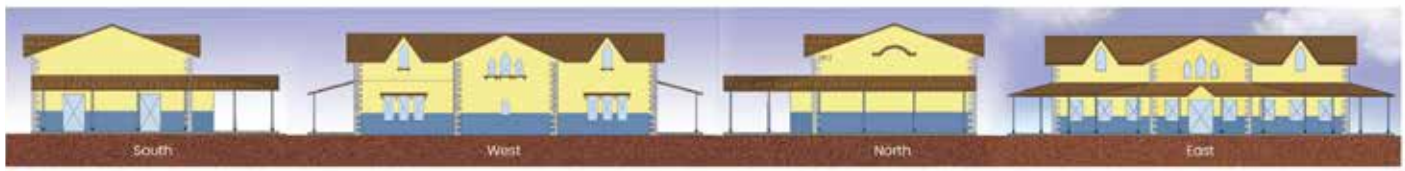
The structure had a symmetrical plan with a central hall and two wings. It was a combination of brick and stone masonry

Building: Plan

with a double height. Mangalore tile roof supported on a solid timber truss. The gabled roof with Gothic windows and wooden facia further accentuated the colonial style of architecture. The timber roof truss had become weak over a period of time and started sagging, because of which the terracotta tiles had fallen off.

Mr. Niganna a heritage contracter was appointed to execute this project.The broken Mangalore roof tiles were removed. About 70% of the existing tiles were reused after cleaning. About 60 % of the wooden rafters were damaged due to water seepage and were replaced with new ones made out of local wood sourced from Mangalore. The old cast iron Birmingham columns and their brackets were salvaged completely and restored. The doors and windows along with their stone lintels and sunshades were also restored after cleaning and painting. All the timber was replaced and the roof truss was painted with colours true of that period

Traditional building construction techniques were utilized in the whole project including lime plaster application for masonry and red oxide flooring. This building was restored and is being repurposed as a community centre and library for the ward schools cluster.



Building Elevations

SRI GAYATHRI MEDICAL MISSION HOSPITAL

Thiruverkadu

Architect
Ar. Murali Murugan

Jury Comments: Well-planned and integrated spaces with courtyards helped create naturally-lit and happy, cheerful interiors and sustainable architecture.

PROJECT DESCRIPTION AND CONCEPT:
Gayathri medical mission hospital was designed for the NGO through the perspective of the underprivileged as they constitute an indispensable part of our society. The spaces were designed according to the psychology of lower middle- income people effectuating way-finding strategy by implementing color schemes in floor patterns to establish each space distinctively so that people needn't depend solely on signboards.

MATERIALS:
The welcoming entrance ensures that people do not feel intimidated to visit the hospital, by composing the intelligible material palette of exposed concrete, stained artistic glasses and coloured vitrified/Kota tile flooring that gives the hospital a rustic and modest outlook, encouraging the under-resourced people to visit the hospital for routine checkup as 'prevention is always better than cure'.


ENTRY PERGOLA

SALIENT FEATURES:

The RCC suspended wall of exposed self-compacting concrete construction forms the curvilinear main façade along the water body. The large space frame of the atrium involves skylight and ventilation systems. Also, a 25ft earth filling facilitates massive river abutment to eliminate the issues of soil erosion and water flooding in the building. The green courts and open corridors alongside informal seating ensures a casual and relaxing ambience for both patients and attenders. This 70-bedded hospital is provided with facilities such as Outpatient, Radiology, Emergency / Trauma, Physiotherapy, Pediatric departments, Labor wards, Operation theatre, ICU, In-patient wards and pharmacy. These amenities, revolve around several courts and these courts are all color coded giving them a special character. The people's court is designed for the visitors to gather and interact without any hesitation. The hospital ensures a supportive healing ambience that helps to heal in both physical and psychological aspects by integrating nature and built environment.

"Health cannot be a question of income. It is a fundamental human right." – Nelson Mandela

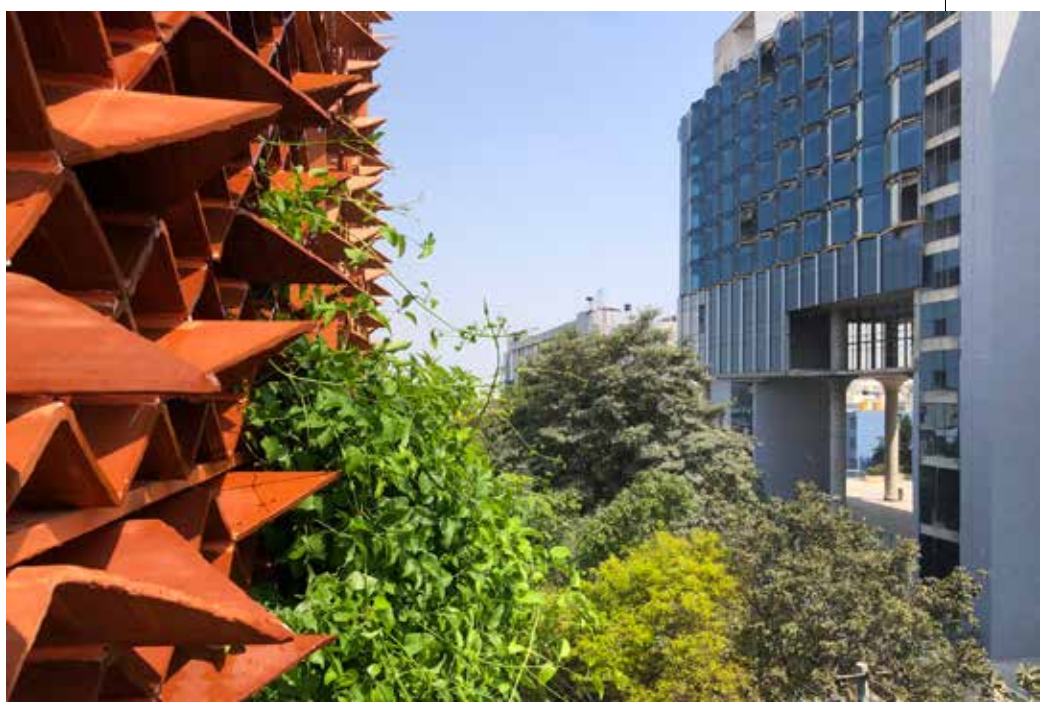
Hospitality Project - WINNER

TERRA-COMB

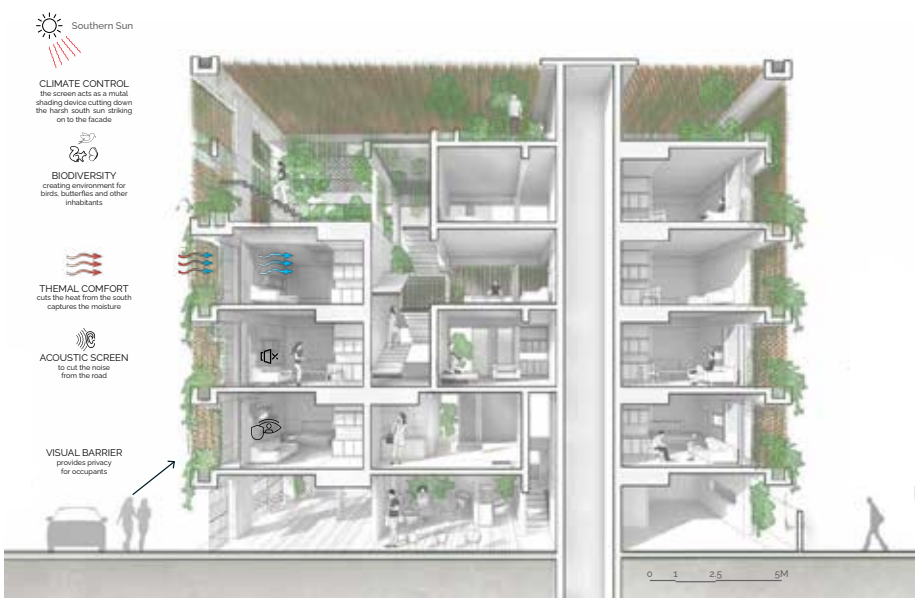
Bengaluru

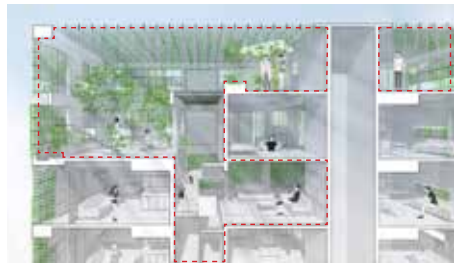
Architect
Ar. Avinash Ankalge

Jury Comments: Good example of creating useful functional and sustainable architecture for a small compact plot of land. Skilful and thoughtful architecture.



The 70' x 40' plot is situated in a dense urban neighbourhood and faces a narrow park to the South. The primary residents are students and professionals. The density and narrow setbacks of the surrounding buildings resulted in section that draw light from above. Interconnected volumes allow light to penetrate through the building. These volumes become internal courts which house common activities such as reading and dining, while also forming pause points along the circulation of the building.





Interconnected shaded green courts at multiple levels to be used for various activities

Lounge at the third floor

A building envelop made of reclaimed Mangalore ridge tiles wraps itself around, shielding the interiors from the harsh sun and creating a comfortable internal environment while also acting as an acoustic and visual screen. The reclaimed ridge tiles are sourced from a nearby factory and are cut into 45-degree profiles. They are then assembled in a framework of mild steel plates and repeated at two-feet intervals.

The screen works on the principle of evaporative cooling and is an abstraction of traditional water jugs which are used to keep water cool during summer months. A drip irrigation system efficiently supplies water to plants while also sprinkling water on the terracotta tiles, keeping the interiors cool. The vegetation grown along the façade helps create a biodiverse environment, attracting birds and insects, and becomes a model for buildings in the urban fabric.

Built form meandering between the landscape

KOORGAHALLI ESTATE - A PLANTATION RETREAT

Suntikoppa, Karnataka

Architect
Ar. Sandeep Umapathy

The design aims at a simple concept of connecting with nature and gives the visitors an intimate experience of the coffee estate, celebrating the flora, fauna and culture of the area with minimum intrusion on the landscape.

Planning is conceived as interior spaces sprinkled between the trees with the water body linking these, as a linear element. This fragmentation of the floor plan also allowed for the smooth navigation of the sloped terrain with minimal impact on the land and the trees around.

The isolated nature of the site along with the ambition to minimise the environmental impact, demanded that a locally focused sustainable approach would be the best way forward. This was achieved by the use of local resources such as material and manpower, thereby enabling livelihood opportunities to uplift living standards while conserving traditional values and techniques.

The retreat became a platform to showcase and promote local art and culture that was seamlessly incorporated in the program. The project addresses, socio-cultural, economic sustainability and the migrant labour issue in the post pandemic world. Local people of Kodagahalli estate village are involved in running of the retreat in supplying locally grown products, cooking authentic traditional cuisines to the guests and involved in various activities in the running of the retreat thus enriching the individual lives of the local community and bringing in social equity.

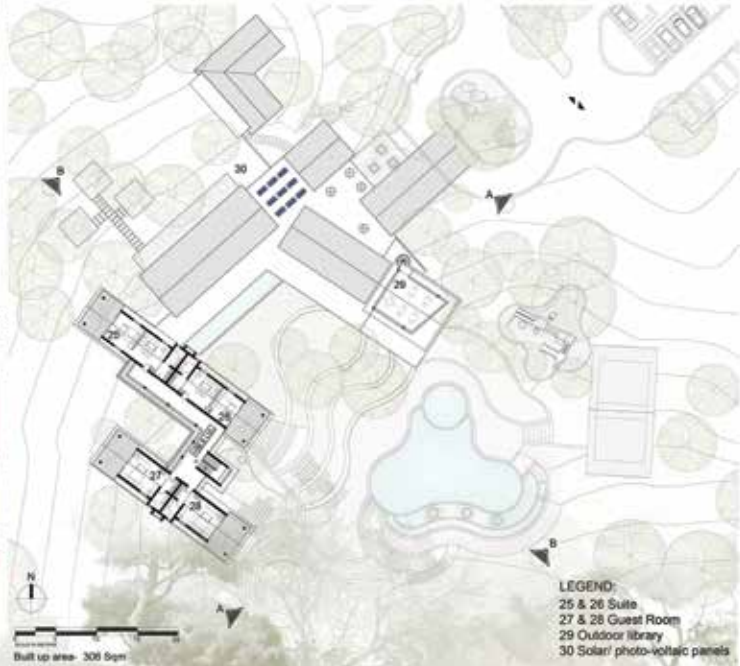
Built from merging with the landscape

True dialogue with nature

The first floor comprises of four more rooms, with a flexibility of multiple interior configurations to facilitate the different sizes of visiting families. Adjoining the rooms were large covered decks protruding into the landscape. The solar panels and the water tank are located on the flat terrace above the common area.

Guest room - Borrowing true nature

Guest room - Suite



Section BB

Planning - Floor plans/Section

Blending transitions

The project employs 35 localities & supports 62 families in the Kodagahalli village.

Solar/photo-voltaic panels on the roof minimised the energy consumptions by 40%. Net Zero Water- holding ponds were planned at strategic locations to hold water, which is used by the estate and also recharges the natural aquifer of the land and meets 100% requirements of the retreat. Grey water recycled by the reed bed system is used for irrigation. An efficient Bio-gas system is set up by using organic waste for the kitchen use.

Echoing the context of the site, the colour palette was consciously retained earthy & natural to blend with the surroundings. Local materials such as stone and wood paired with the natural colour palette of the coffee bean and spices from the estate, came together in celebrating vernacular traditions. Using local material offered a resilient supply chain and limited energy usage. Using abundantly available wood and local traditional oil based hand polish reduced harmful emissions making the structure a healthy place. The retreat is designed in response to the local culture and climate with passive design elements resulting in high performing climate conscious structure, providing thermal comfort and further reducing utility and operation costs. The grey local stone in rugged random rubble masonry with brick is used as composite masonry walls. Terracotta pots were used as inset for flat filler slab to reduce the use of concrete .The interiors combines ecological luxury and local elegance with a contemporary edge.

Industrial / Infrastructure Project - WINNER

MANUFACTURING UNIT FOR STUDIO CHINAR

Jaipur

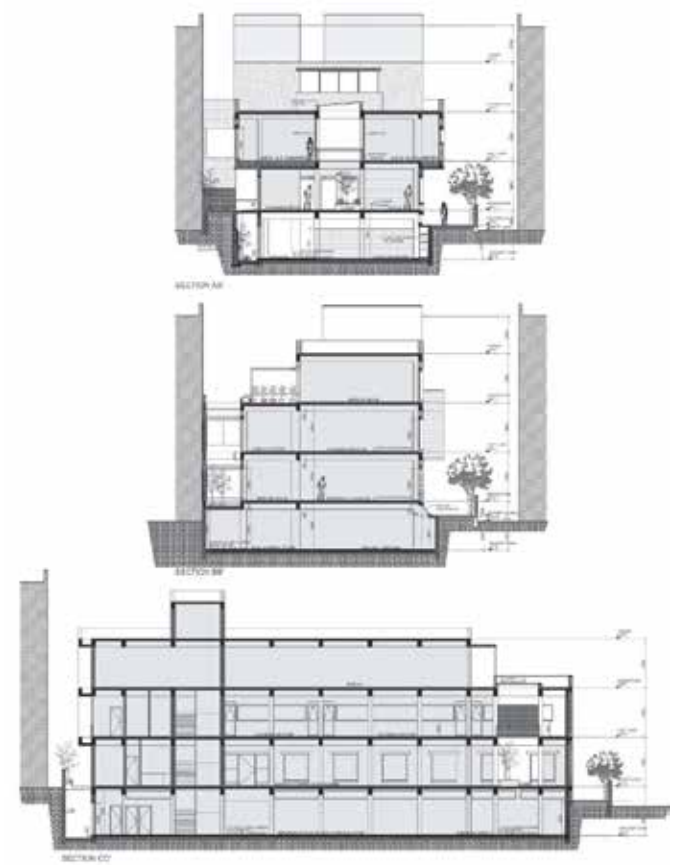
Architect
Ar. Juhi Mehta

Jury Comments: A very humble approch towards the context, material and climate was seen in the design process. All functional and emotional needs were addressed carefully. The design detailing shows use of local craft patterns in the external facade elements, useful in self-shading the facade as well. Use of light shafts create an interesting light quality within a tight site. The design shows seamless integration of the various functional spaces to promote the brand of the textile business, showing the right mix of traditional, rooted with modern aspirations.

Built-up area:
2230.0 sq m/ 24,000 sqft

Studio Chinar, a garment and home furnishing manufacturing unit is situated on an 800 square metre piece of land amidst a plotted industrial area located on the outskirts of Jaipur, Rajasthan, India. The client, an alumnus of National Institute of Design, Ahmedabad India desired a functional and climatically comfortable built environment integrating work place along with studio and other ancillary facilities for a team of around 100 people including 80 craftsmen (tailors and weavers) who combine to produce hand -woven and hand-crafted contemporary textile products. Hence, the project was imagined and conceptualized as naturally lit comfortable working environment which would uplift the worker's ability to focus and be more creative and productive. The building has been based on the idea of celebrating the artistic work of the studio by creating neutral spaces brought to life by bringing in natural light on all floors helping to relieve mental fatigue and driving productivity.

The construct is an exposed brick envelope supported by RCC framed structure consisting of a basement and ground plus two floors. The idea



behind using brick as the primary material was to create a sustainable built environment highlighted by backdrop of brick patterns inspired by weaving and printing work created in the studio. The internal spaces have neutral hues which include use of locally sourced exposed brick walls, concrete finished slabs and Kota stone floors laid out in simple geometries highlighted by natural light. This results in spaces which are subdued but enhanced by the color of the garments and home furnishing being produced. Considering the cardinal directions of the site, the front façade having its front on West side has been predominantly kept solid with brick pattern inspired from the client's designs. The brick pattern helps in breaking the monotony by creating a rhythm by play of light at different angles.

The solid wall provides thermal comfort inside the building by keeping out the harsh West sun. This wall has been built as cavity wall to further serve its purpose as an insulator. The main entrance from the north side opens into a central court having a skylight creating a feeling of large voluminous space. Fenestrations have been provided on the south and north side so as to bring in natural light into the internal spaces. The rectilinear court on the north side brings in diffused indirect sunlight. This makes it suitable for workspace and the head designer's room also opens onto this court. The basement workspaces borrow natural light from large ventilators on the south side. The ample amount of natural light inside helps in increasing the energy efficiency of the building.

Rain water harvesting is done by collecting the rainwater in large underground tank and this stored water is reused in the building. Solar panels have been installed to generate energy using the natural resource available in abundance in Rajasthan. Overall layout of the building incorporates seamless transition of various spaces flowing into each other respecting the functional relationship between the various activities of the textile manufacturing process from weaving to dispatch.

MANUFACTURING UNIT FOR MODULAR FURNITURE

Navi Mumbai

Architect
Ar. Kush Patel

Jury Comments: The project shows innovative readaptation of an existing factory building with modern additions to bring value to the new business of the factory. Use of natural light in the building for a better working environment for the staff demonstrates a comprehensive approach. The integration of architecture with management techniques to create a contemporary outcome for the industrial building. To complete the entire process of design and execution in six months flat was a great achievement.

Site Area: 8000sq.m.
Built-up Area: 5000sq.m.

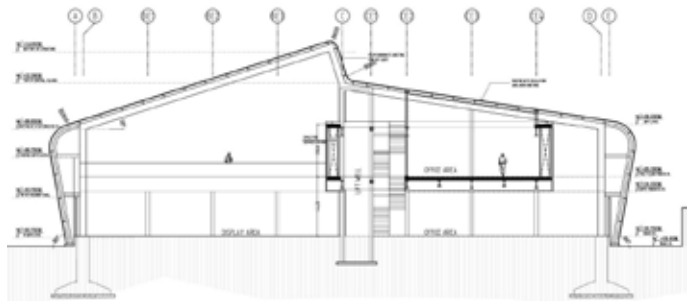
CLIENTS BRIEF:
The client's business program was to manufacture 'contemporary and ergonomic range' of furniture for a commercial work spaces, which are required for his large-scale turn-key project contracts.

The project, located in Mumbai city, came as an opportunity to show the metamorphosis of a utilitarian factory building, from its dilapidated state into a modern, efficient, and sustainable version. The client had purchased a land with an old factory shed in R.C.C. construction and he had also placed the order of the hi-tech machineries for the production facilities.

After the site analysis and the study of the design program & requirements, we came to the conclusion that:

1. The existing column grid of 5M x 20M is inefficient for the large size machineries and their process flow and the space organization.
2. Shed condition is unfit for sustaining future functioning of the building, even after spending on the repair works.
3. The light quality is poor and will lead to low productivity and a complete dependency on artificial lighting throughout the day

CROSS_SCHEMATIC SECTIONAL VIEW



CROSS SECTION THROUGH THE BOARDROOM [CANTELIVERES BLOCK]

Hence, we proposed to go for a New Factory Building which can resolve all the above concerns.

PARAMETERS THAT DEFINED THE ARCHITECTURAL DESIGN PROGRAM:

The most challenging part of the project was its timeline! Before finalizing on the Architectural design, the machineries required for the manufacturing of the product were already ordered by the client. These machineries were imported and they were arriving in the month of July, which is the peak of monsoons in Mumbai. This scenario left us with only four months in our studio to design plus ensure the executing on site.

Hence, we as an Architects provided the following solution:

1. Design and execute a Pre-Engineered Building, which can be done within the time frame if the design is frozen in few days of time.
2. The Pre-Engineered Building will be a sustainable solution in terms of its materials, time management and better spatial quality
3. We designed a vision for the client and presented him our first sketch that explained:
   - the advantages of the PEB structure over the R.C.C. considering the time frame
   - the productivity of the building with efficient machine layout and planning with futuristic facilitation
   - the enhancement of the spaces with North light incorporation
4. In our first meeting with the client, he was convinced and impressed with the design and solutions given on all the various challenges

We approached this challenge with:

1. Keeping the design simple and efficient
2. Ensuring a better quality of day light
3. We managed with the roofing work on priority basis so that the machineries are well protected on their arrival; this was possible only because of Pre-Engineered Steel Structure, phase-wise execution and design simplicity

CRESCENT SCHOOL OF ARCHITECTURE

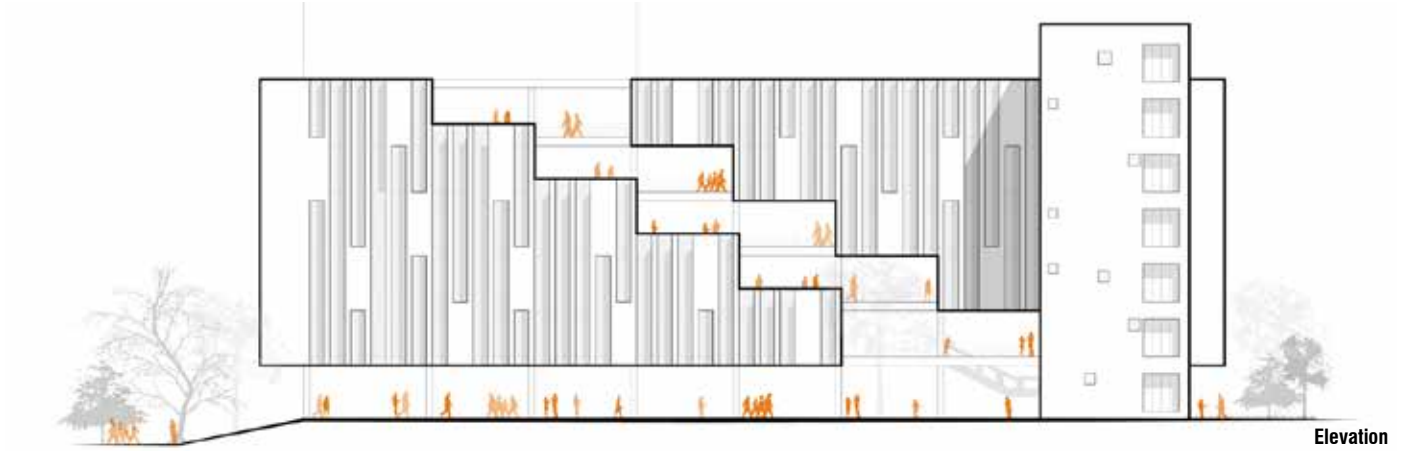
Chennai

Architect
Ar. Kishore Panikkar

Jury Comments: Nothing could be more challenging to design for an architect than to design a School of Architecture. This project is not only inspiring but adaptive to various programmes for future architects. The stepped courtyard is articulated effectively with punctures and visually connects multiple levels of the built space. This offers several options for activities.

Distinctly identified by its stepped terraces and red-striated facade, the Crescent School of Architecture occupies a relatively small lot within a 60-acre university campus in Chennai. The programs in the brief were augmented with 'de-programmed' spaces for collective working and gathering that redefined the nature of spaces and offers any future programme to be accommodated.

An architecture school has socio-spatial requirements that are two-fold - extroverted and introverted, with the ideal school allowing for an open-ended programme. Spaces with transformative pedagogical implications become imperative; where collective creation is encouraged by explicitly offering spaces that urge learning outside of classroom confines. Through an unconventional



Elevation

spatial strategy, this school presents its users with various options for inhabitation and use.

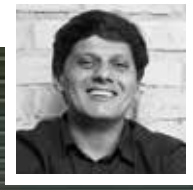
A large piazza extends the urban structure of the university into the school, flows through the open stilt area to the edge of the reserved forest and maximizes the building's connection to the ground, enhancing its openness.

A sectional courtyard carved across floors out of the built mass reinterprets traditional institutional buildings, facilitating a series of congregation spaces that work independently on every floor while collectively tying the building to ground and the larger campus. These voids also allow for an 'outdoors-like' experience –with wind blowing through, the sun traversing across the day, shaded spaces that connect to the elements– with views across the reserved forest and the campus.

Each studio opens onto its double height terrace offering the possibility of studio/workshop spaces and/or exhibition and review spaces that can be viewed together diagonally across, during 'open-house' and review days.

Socially, they serve as dynamic spaces that allow for chance interactions, student discussions, class reviews and much more, becoming a place to celebrate the collective, where over time, diverse activities and functions stitch together a strong memory of place.

Allowing a new system where users can begin to take charge and re-configure spaces that adapt to changing needs and demands, tuned towards their own specific purposes, the building posits a proposition for a sustainable institutional architecture that will adapt to its times.



IIFLW

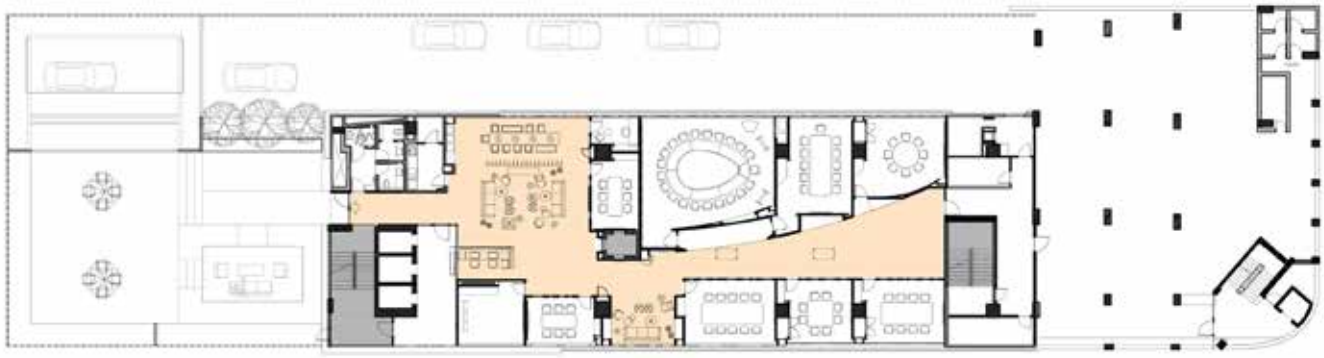
Mumbai

Architect
Ar. Rahul Gore

Introduction
The wealth arm (IIFLW) took over the entire building from the parent holding company IIFL. This gave an opportunity to redesign not only all the 10 floors but also put in additional infrastructure like a service Dumb Elevator and new chillers for air-conditioners at the terrace level. Skylights were created below terrace spaces and an entire slab in one grid (2nd Floor and 3rd Floor) was demolished to make way for an inter-connected floor.

Radiant cooling through extruded Aluminum fins in the ceiling is a unique energy saving air-conditioning system that has been provided on all floors generating savings of up to 40%. Chilled water at 14 degrees Celsius (as against 3 degree Celsius for conventional HVAC) is run through the entire ceiling providing the cooling for all interior spaces. HVAC ducts are reduced to 15% to provide of usual size necessary de-humified fresh air into the space.

The Client program was analyzed and was re-configured such that the Staff, Cafeteria and Gymnasium occupied, the central 4th Floor as it also had an open terrace accessible by the cafeteria. The typical office floor occupies floors 5 to 10. The 1st Floor is the dedicated Client meeting and conference area and is easily accessible from the upper staff floors and the Ground floor reception.



FIRST FLOOR PLAN

The 2nd and 3rd Floor are given to the most important Client Sales and Service teams alongwith the management spaces around the interconnecting amphitheater staircase space. A Multipurpose pavilion at the terrace alongwith the double height lobby at the ground floor completes the project programming.

Fourth Floor – Cafeteria / Gymnasium

The 4th Floor is designed with an all-day health juice / coffee bar as an extension of the lift lobby. The main seating alongwith the "Market Place Cafeteria" at the rear connects to the open to sky terrace and has additional seating. A neatly designed hand-wash area, finishing kitchen alongwith dish washing area is provided. A Gymnasium alongwith changing rooms / showers are also provided near the lift lobby and completes the common activities at this floor.

TYPICAL FLOOR

The typical floor (5th Floor to 10th Floor – 7000 sq.ft each) is conceptualized with staff break-out area in the lift lobby having a community table a standing table alongwith a self-serve pantry and is equipped to encourage informal interactions. The main open office space has cabins, cubicles for senior staff along the window glazing with the general workstations in the central area. Telephone booths and a brainstorming area are present at each floor. Radiant cooling enabled comfort air-conditioning at the same time allowed higher ceiling heights. A common gaming room is provided at the 6th Floor (Refuge area) and is easily accessible from the fire staircase at the rear of the building.

SWIG - THE STAIR BAR

Kolkata

Architect
Ar. Vivek Singh Rathore

The Swig located in Swabhumi is at an important junction of the city both culturally and geographically between the old city and Salt Lake in Kolkata. The Swig recounts the tales of the royal past through instigating grand experiences for the visitors. The design is a contemporary interpretation of the ageless architecture of a culturally significant past. Retention of the physical and spiritual spirit of the space can be observed as the design ethos is to preserve the expressions of the lost Bengal.

Designed uniquely around a staircase, The Swig celebrates the "CRYSTAL LIFE" of a Zamindar. It includes the memories of The Naach Ghar and The Kaanch Ghar in its decor and personality. An existing staircase was enclosed and translated to become the social hub of Raaj Kutir Courtyard.

The Project employed numerous advance technologies for its structural revitalization. RCC Jacketing and Carbon Fibre Wrapping were adapted for many locations in the structure, while familiarizing it to architectural requirements. Sonic mapping of the existing foundation at places was done. The architectural envelope in Victorian cast iron design grammar allows for an interesting sense of connection with the inside and the outside of a courtyard palace. The Orchestration of cast iron filigree, glass, gold and mirror brings in the need of opulence and royal indulgence.

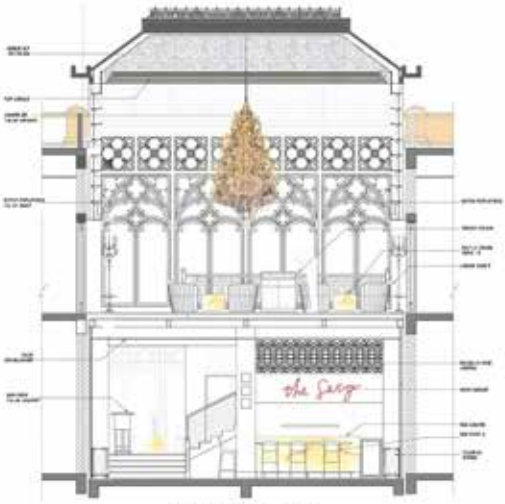
OPULENCE & ROYAL INDULGENCE

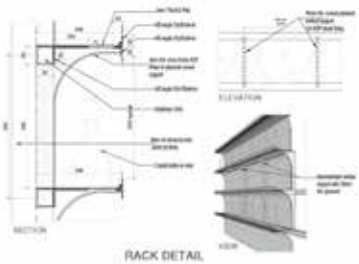

RHYTHM OF CUT CRYSTAL GLASSES AND WINE BOTTLES


WARM WELCOMING PATHWAYS


STEPPING UPTO GRANDEUR


UNISION OF CHEQUERED TILES AND SOLID WOODEN FLOORING


NORTH SIDE ELEVATION


RACK DETAIL

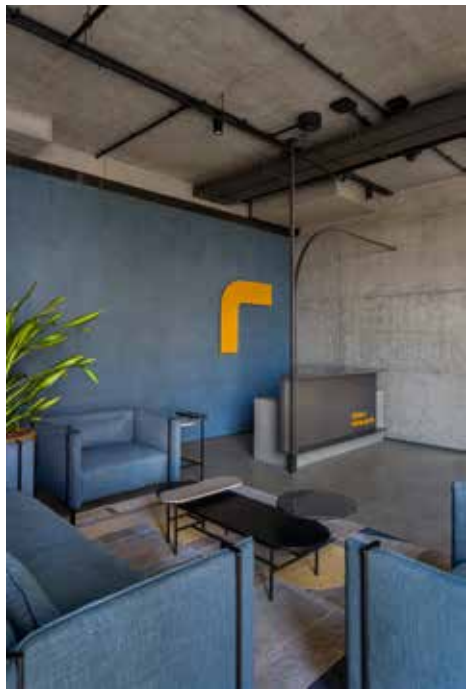
A STORY WOVEN WITH RICH PATTERNS AND ELEGANT FINISHES

A staircase offers a dynamic experience of interaction with 6 different seating arrangements at different levels – The Bar overlooking the Palace Courtyard, The Lounge experiencing the green at the back yard, informal lounging at half-landing level, twin seating along the corridor, niche seating and the sunset lounge.This makes the changing levels of lounging and seating interesting and lively.The SWIG is a transitory zone which becomes a revenue generating place, the interspersed spaces having a capacity of 40 can cumulatively hub up to 80 to 90 guests for party. The staircase is not just about the treads & risers, it becomes a social hub.

India being a hot and humid country, natural marble stones were used to keep the temperature cool in that era but the use of rectangular checked pattern floor celebrates the contemporary fusion.

Elements of Naach Ghar, like Ghungru interestingly became the inspiration for installed art, light fixtures and decor. More than 700 Hand cut Crystal Goblets and glasses adorn the high walls reflecting the moods of the sun and the grand Chandelier etc. add to the environment of royal hospitality of lost Bengal. The minute detailing and precise fabrication of the crystals reflect the royal indulgence of the design to give it a majestic appeal. It was a painstaking task and accentuates the extravagant handcrafted workmanship and intricate detailing behind every element of the design intent.

With the setting of every evening, the Swig, glows like a tall lantern calling the guests to a wonderful experience of timelessness!



OFFICE FOR RIVIERA INFRAPROJECTS

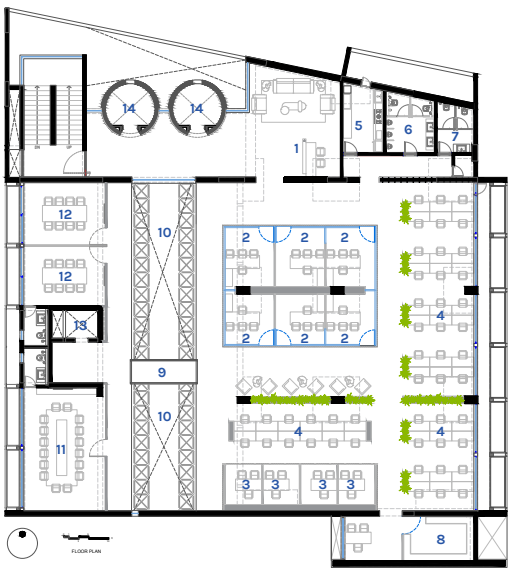
Ahmedabad

Architect
Ar. Keta Shah

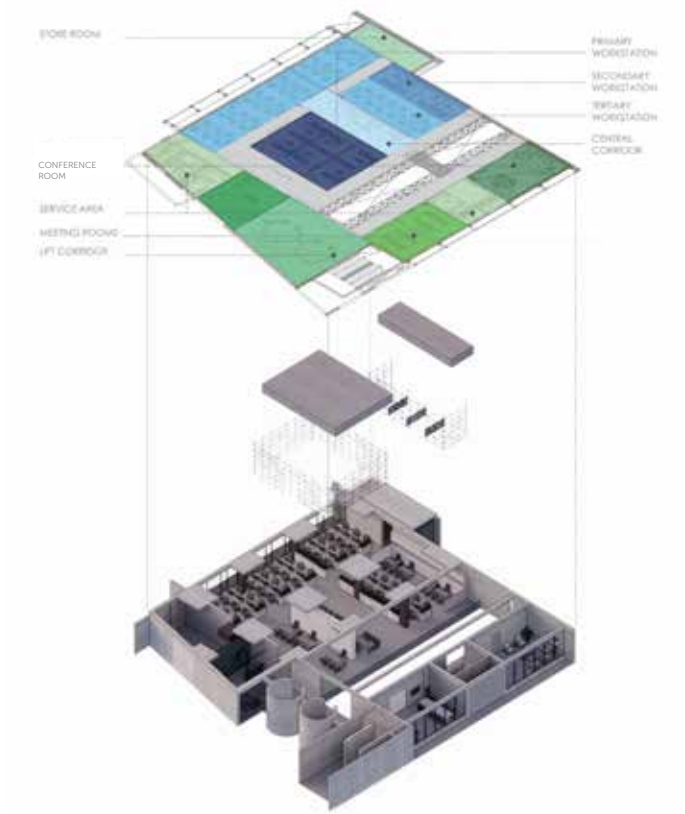
Jury Comments: The design language was young and trendy. The use of materials such as exposed concrete cement floor, scaffolding material for partitions and screens created an ambience that was informal relaxed and casual with an open layout and a well-balanced interior and exterior. The lighting design integrated with the layout and flooring pattern. Clean, minimal furniture and spaces were appealing. Overall it reflected the business intent of the company for which it was made.

Located on the fourth floor of a 5-storey building, this 4000 sq. ft. office for an infrastructure company has beautiful diffused light that streams through the floor. Being a recent off-shoot of a legacy real estate construction company in Ahmedabad, the design focused on creating an open – office structure that offers a young, dynamic vibe.

The space is an open floor plate with East – West openings. There is an atrium spanning for four floors that cuts across the floor plate. This is used as demarcation between the primary workspaces and the meeting and conference room areas. The two zones are connected by a bridge. Since this is the topmost floor for the atrium, there is ample light streaming though the workspace throughout the day. In order to maximize the natural light through the space, East-West orientation is used for seating, and minimal screening is used. The enclosed glass cabins with metal screens are situated towards one end of the floor plate to create a large open work area. The meeting rooms and cabins are screened off from the main workspace by a solid partition to control the noise and the light.



Legend:
1. Reception & Waiting
2. Individual Cabin
3. Semi-Open Cabin
4. Workstations
5. Pantry
6. Mens Washroom
7. Womens Washroom
8. Store
9. Bridge
10. Atrium
11. Board Room
12. Meeting Room
13. Directors' Lift
14. General Lift



The material concept is to incorporate materials & finishes that the clients use within their projects and construction sites, but add more finesse in the way they are used for the interior application. The primary design element in the space is inspired by scaffoldings - the element that is the backbone of any construction site, the connection between the humans and the machines. Scaffoldings have become the identity of any place that is under construction. For this office, the scaffoldings have been translated into an interior scale, to be used as partitions and screens.

Right from the reception area, an industrial, yet sleek design language greets you, and runs throughout the office. The reception table is designed in a concrete finish with metal elements. The customized lighting reflects the brand logo. A seamless micro-cement floor runs through the floor. The exposed concrete walls and the structure were retained as a starting point for the design, and all the services have been meticulously planned to remain exposed, to enhance the feel of the space. Working within a space that was already designed, this proved to be the most challenging part of the project. The brand colour of blue has been subtly introduced on the walls using a lime plaster texture. Wood and carpet are introduced in the conference and meeting spaces for better acoustics.

The space is dotted with fresh green plants that are housed within customized workstations. The raw and industrial palette that forms the basis of the company's work is given a fresh outlook into a design language that is more nuanced.

VISHWAS PHOTOGRAPHY & BEYOND

Bharuch

Architect
Ar. Kalapi Buch

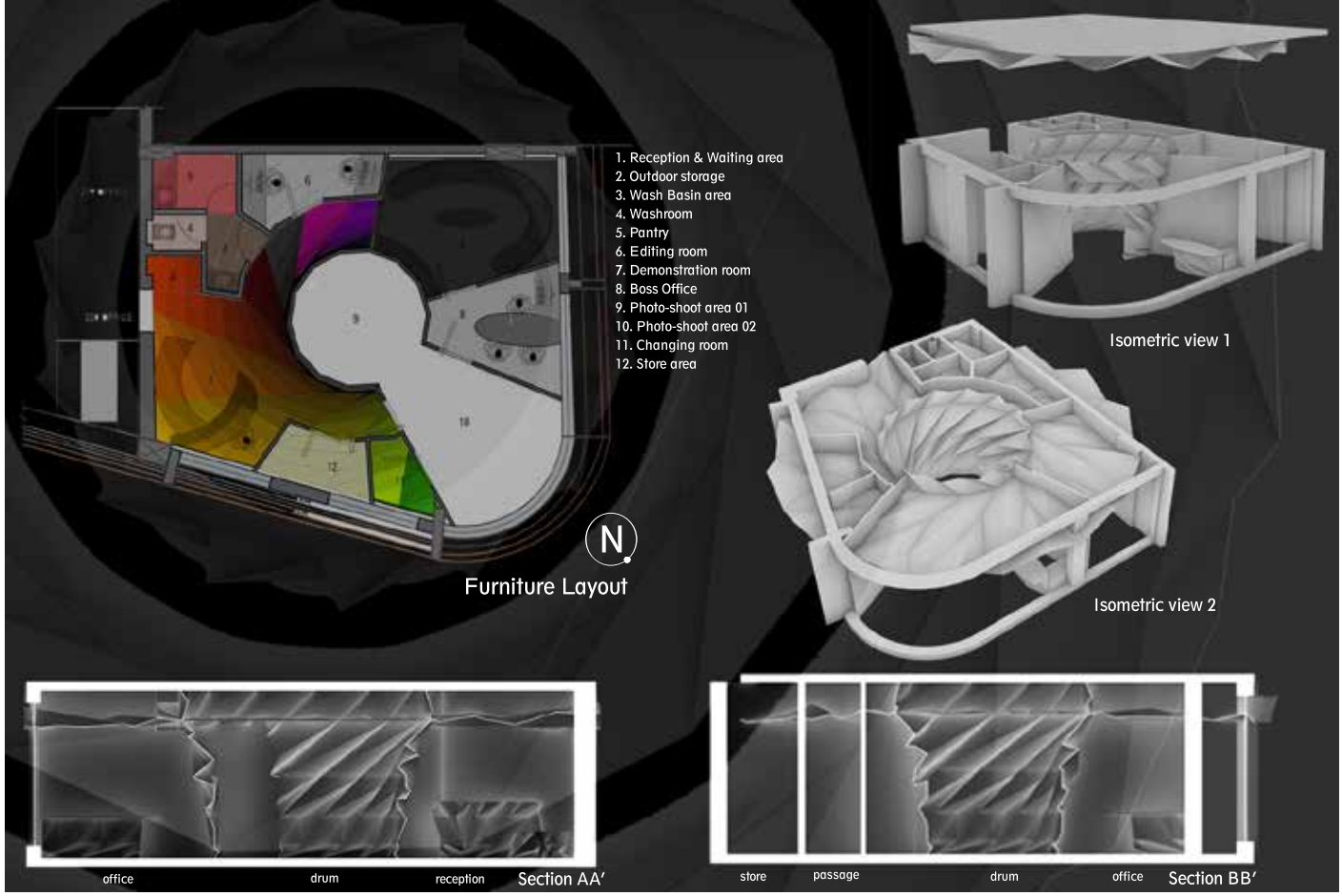
Jury Comments: The concept to design of the design of the photography studio went beyond just Interior Design and transcended into art, artefacts, jewellery and apparel design. The presentation was beautiful and the gradation of the colours, derived from the lens shutter of a camera was well-worked out. The spaces created with internal partitions culminated into a comprehensive and complete studio.

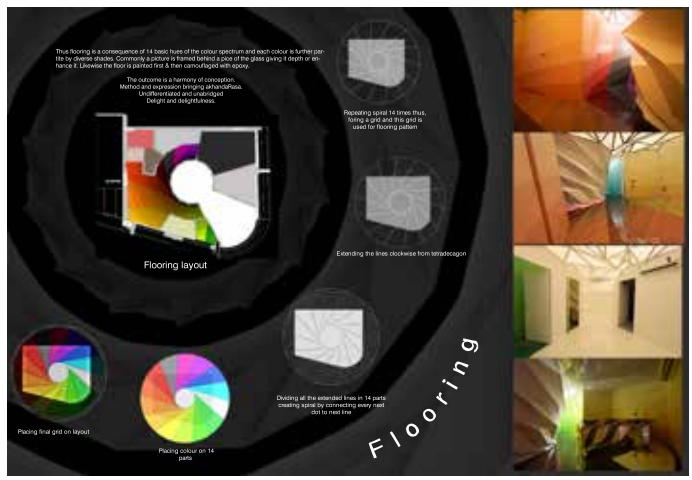
The word “photography” can be described as “drawing with light”. Conjointly in photography, colour and light go hand in hand. Here too in this project, we have explored these two fundamentals profusely.

The fascinating symmetrical ‘aperture blades’ which before the advent of digital cameras used to be the heart of SLR cameras; taking a clue from this, using the existing site shape & rotating it 14 times we got a two-dimensional grid engendering the flooring & wall pattern; which further culminated into a three-dimensional 14-segmented geometry proliferating the cylindrical tessellated drum, the tessellated ceiling pattern, reception desk, the reception seating, the boss table, the stool, and other accessories like planters, stationeries, carpets, for the studio.

Colour
In photography, colour affects the mood an image creates for the person seeing it. Creation is bountiful of colours. These galore of colours were represented by a selection of 14 hues & each further branched into 7 tints & 7 shades. In total 260 shades of colour have been used in this 1000 sq. ft. space. The 14 hues have been so kept that the presiding direction deity & their colour corresponds to the hues that we have used in that direction in honour of the deity and our culture. The resulting roving climbing colour wheel from floor to wall actually diminishes the boundary between the horizontal & vertical surface & presents one beautiful impelling volume of space into which a subject moves awestruck.

Lighting
The light blesses the studio in its myriad colours revealing a statuesque geometric grid of metal frame support, inspired by the primary studio grid; passing through the acrylic ensemble.
Reception: In the reception foyer 4K as the primary light colour. The RGB lighting is used to set the mood to recreate the all-encompassing light that the camera captures. As the tones of light change so do the feel, the bhava, the rasa of the space transforms.





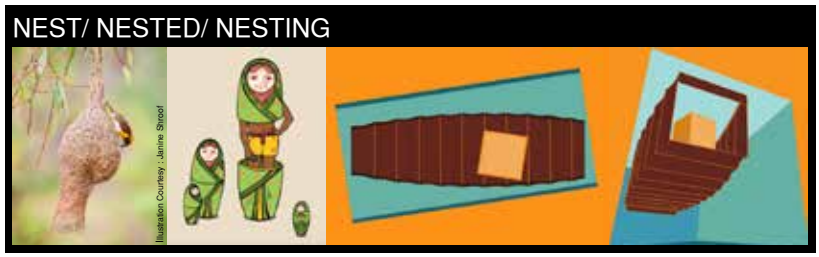
Tessellated Drum Light: This comes a bit as a surprise as this light situated at the base of the tessellated drum breaks the visually static mass into something very light about to fly form. It has RGB lighting and forms 4 modes along with its jugalbandhi with the reception ceiling. They are: 1) both have the same light colour & changing dynamically together 2) the Ceiling with Static Colour light & Drum with dynamic colour light 3) the Drum with static colour light & Ceiling with dynamic colour light 4) Both have different colours changing dynamically.

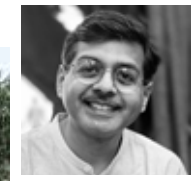
Demonstration Suite: In Indian Culture all ordinal & cardinal directions have their representative chakra, colour, swara (notes), etc. Interestingly this understanding has been explored to locate the lighting colour required in this room i.e. blue & indigo/violet colour. Further, it was derived that Raga Bhairav's bandish is used for placing these lights in the 135 odd glass lenses used to house the source. Regularly the 3K shade of light will be used to illuminate the space.

Photo Shoot Precinct: 'Light is the shadow of God' as Thomas Browne beautifully expresses, akin feeling arises as one enters into this pristine white photoshoot space. After all the walk from 260 colours shades of the reception area, to the black demonstration suite, through to the grey office space; one arises in this pure white space which expeditiously captivates & actuates the experiencer in meditative positure.

Material: The tessellated drum has been fabricated in 1.2mm mild steel sheet by the local fabricators on-site & is painted white. The partitions are made in metal framework cladded with cement sheet & then coloured.

The consequent studio design peacock's mystery, miracle, and magic. The outcome is a harmony of conception, method and expression bringing akhanda rasa, undifferentiated and unabridged delight and delightfulness. Especially it is an inspiration & is hamming the required mettle to future generations residing in small towns of our country to bring glory to design.





THE NEST

Mumbai

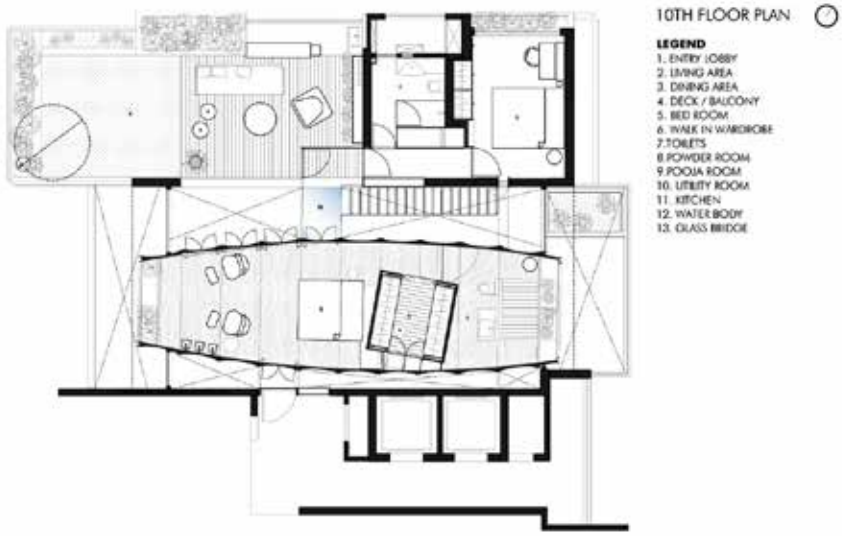
Architect
Ar. Pinkish Shah

Jury Comments: The design team's site-visit during the demolition of some unstable slabs gave rise to an unusual concept of an enclosure within an enclosure for a living space. Well-derived proportions and visual connection with the exterior are well-handled, with a nicely coordinated colour scheme and material palette.

Our clients (a couple with two adult daughters) approached us with a duplex where the intermediate slab between floors had been heavily punctured and damaged by the previous occupants and was unable to be repaired. In consultation with a structural engineer, we decided to remove all slabs and beams (except one), opening up a beautiful 24 ft. high double height space of approximately 40 ft. long x 20 ft. wide that was bookended by terraces on both sides allowing the free flow of natural light and breezes and sometimes birds too.

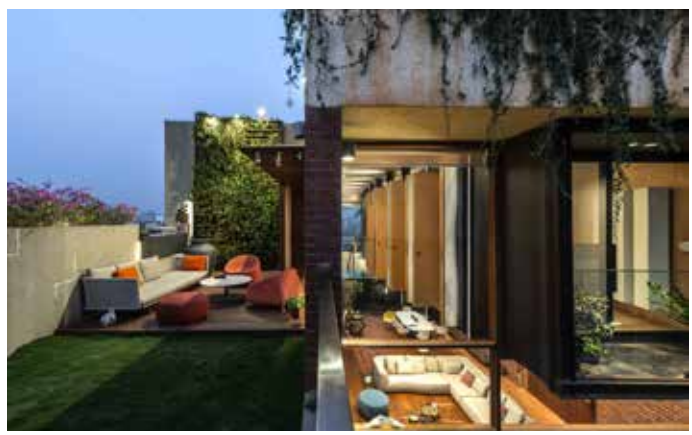
The question then was - what could one do with this unexpected volume?

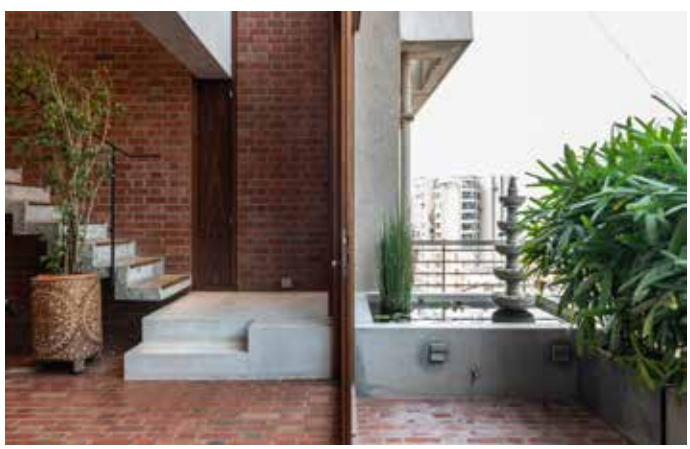
After many iterations and explorations, it was decided that rather than reconstructing the slab in concrete as before, to use the unique opportunity offered to question conventional arrangements of domestic space in urban homes. We decided to "nest" an



object/volume without touching any of the sides, thus allowing the openness of the double height space to be retained. An enigmatic object in cold rolled black steel floats in a seemingly ad-hoc manner within the double height brick clad volume. This play of "nesting" is completed with a white cube "nested" within the metal volume completing a trifecta of objects nested in one another, defining the main character of the house.

The object (nicknamed "the beast" in the studio) is constructed in mild steel framework with a 4mm thick steel sheet scalloped on both faces and bottom - helping stiffen the metal framework- and appearing to be sagging over the living room. Access to it is through a cantilevered concrete staircase that appears disconnected but is linked with clear glass bridges that heighten the sense of it floating. The tough metallic exterior is contrasted with a soft curved interior of birch veneer paneling. One face of





the panels opens out for views to a large terrace at the upper level through intricately detailed doors. The cube of the white walk-in-wardrobe is hand-painted by award winning tribal artist Venkat Shyam in graphic black line work.

The bipartite organization of the entire duplex allowed for the living, dining and master bedroom to be within the double height space and the kitchen, utility, powder room, daughter's room, guest bedroom to be in the relatively more private and closed another half of the house. The main living space uses a raw palette of brick, concrete, oiled wood and black metal whereas the bedroom spaces are softer and more refined with glass mosaics, coloured glass, wood veneers, tactile fabrics and crafted wooden furniture. Planting and greenery in all spaces enhance the relationship with nature in the urban.

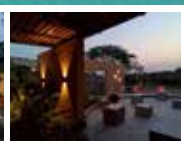
PROFESSOR SHONKU PARK

Jury Comments: Shonku Park demonstrated a thematic landscape which aimed to manifest a fictional story narrative with lot of architectural elements.

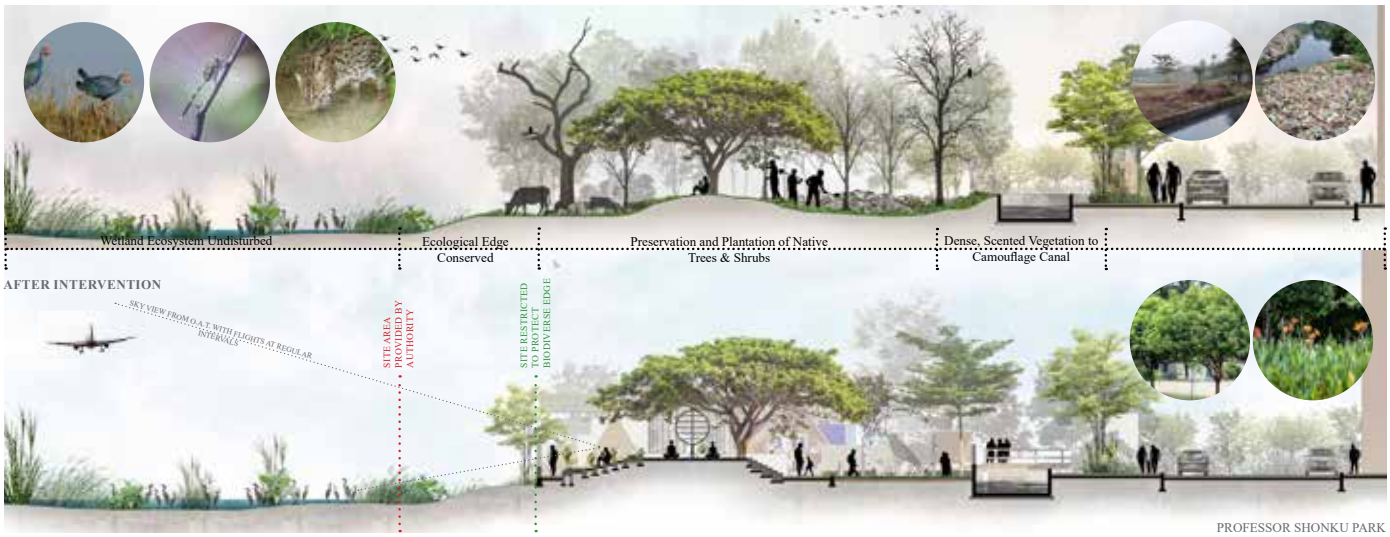
Kolkata

Architect
Ar. Sujoy Das

Clockwise from top:
i. Masterplan of site with flow of design elements, ii. Professor Shonku sculpture at the entrance, iii. Egyptian Mummy concept, iv. Lawn and play area, v. Solar System courtyard, vi. Galleries.



In the midst of redefining urban parks in today's era and a city born of culture, the design for the thematic Professor Shonku Park was conceptualized as a tribute to the talented Satyajit Ray. The park brings to life one of his most affectionate and well-known science fiction creations; an eccentric genius and a brilliant scientist, Professor Shonku was known for his strange inventions and astounding adventures, and having in the end finally flown off from earth on a spaceship! The flow of movement through the park consists of artistic elements and illustrations from Professor Shonku's adventures at every turn and twist providing visitors with interactive engagement from the beginning to the end. The idea behind the concept was to encourage newer generations to explore Ray's immortal literary creations.



PROFESSOR SHONKU PARK

The 1-acre landscape was originally a plastic recycling zone and occurs between two contrasting settings of both urban and environmental importance in the form of the well-known mall of City Centre II and a large residential complex as well as an ecologically diverse wetland ecosystem which was visited by rare and migratory, aquatic avifauna. The design was meant to not only create a bridge between these spaces but also provide a transition between these two elements. The first order of task was to clean the site and provide a suitable garbage disposal area before converting it into a park that all sections of society could visit. The small park was to be a breathing space where the people of the adjoining high-rise complex, surrounding slums, and visitors from the mall could relax and rejuvenate.

The site development was done keeping in mind the existing trees and the nuances of the surrounding area. The wetland ecosystem was conserved and undisturbed in its entirety and the planting design was done using native or locally occurring trees and shrubs. The natural slope of the land was adopted and used in the favour of natural and easy drainage. Materials such as *Kota* and *cuddapah* tiles have been used for the hardscape while granite was used for planters. Some of Ray's illustrations were even recreated as a wall composition that involved the collaborative work of college students and local artisans. Amidst the contemporary concrete and glass jungle, the Shonku Park hopes to act as a breath of fresh air within the city, and a memory of something irreplaceable!

Jury Comments: The landscape architect had two-fold challenge: one to cater to the functional requirements of the developer's brief and secondly to address the mandatory conservation of a 1.5-acre lake on the plot. The lake was developed as a storm and grey-water retention water-body, with a linear edge garden for strolling. Choice of vegetation simulates a forest-like experience amongst the residential towers. The recreational settings cater to the needs of residents both, at the podium and ground levels.

VYOM

Kolkata

Architect
Ar. Anuradha Puri Rathore

Residential landscape can help in molding the culture and personality of its dwellers. It has a influence on the development of most cherished memories of a childhood. These memories develop into the personality traits of next generation. By giving them a free outdoor experience space, well woven with natural elements we can change the habits and behavior of the society. Reactions can be mellowed and better controlled.

Site
Vyom is a 7.05 acre residential complex located in the Southern part of the city of Kolkata. This part of the city is very densely populated by smaller mid-level high residential development. With the byelaws asking for 20% mandatory green, master plan provides for 1.41 acre thick green area. This green spread over the length and breadth of plot has the capacity to contribute to the biodiversity of the entire neighborhood which is devoid of organized greens. A notified mandatory but dry 0.5 acre pond on the plot was another added boon to the landscape development.

Objectives
1. Urban green density improvement
2. Land and Water symbiosis
3. Ameliorate Biodiversity index of the region
4. Man and Nature connections

Design
The landscape at Vyom is designed as an urban oasis in a very thickly developed urban setting. On a flat site the design has provided for a variety of experiences of pond edge, mounds, grasslands, forest thicket, and hill top perch views while weaving in the general outdoor activities into the campus. The uneven edge of the boundary has been used to maximum benefit of the design.

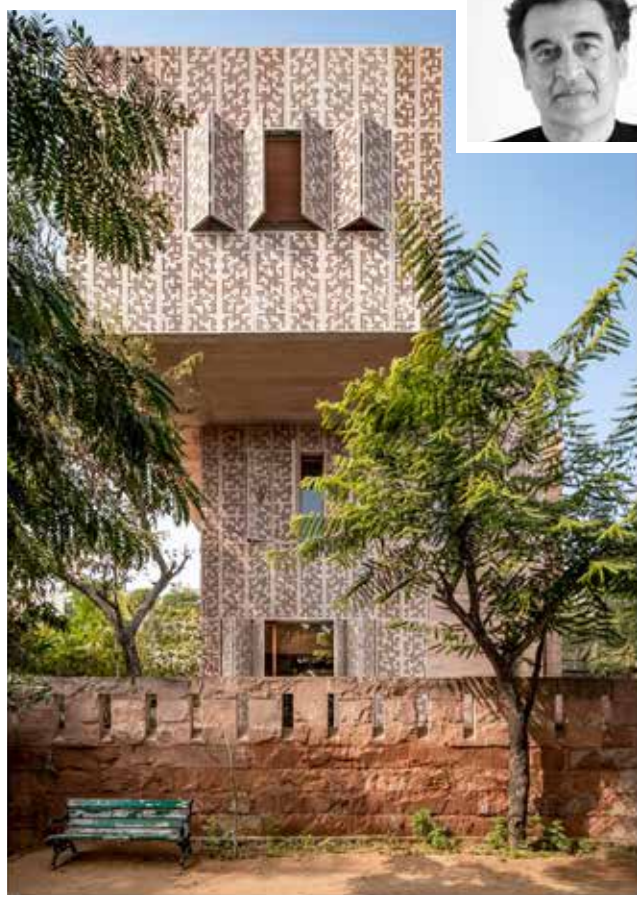
First year of pond

Pond after second rainy season

Semi hidden swimming pool enclosure with the club

Vyom landscape aims to lighten the spirits of its residents. It is developed as an urban forest with a small lake in its core. Wider area South of the lake is developed as two different visual zones. While the walk along the building is an introvert evergreen tropical zone as its largely shaded areas, the space on the water edge is developed as open landscape with series of courts, sitting areas, meeting areas. This zone is better bathed in more hours of sunlight. The two linear typology of spaces are visually separated by large mounds. A series of perpendicular walkways with experience walls allow a peek a boo across the two zones. The biggest sunny patch is designed as a grass amphitheater where residents love to organize festivals and get togethers. Boundary conditions of lower MIG dwellings have been camouflaged with tree plantations and climbers according to the space availability.

Thematic sculpture and signage complete the full informative story on the campus.



HOUSE OF SOLID STONE

Jaipur

Architect
Ar. Kamal Malik

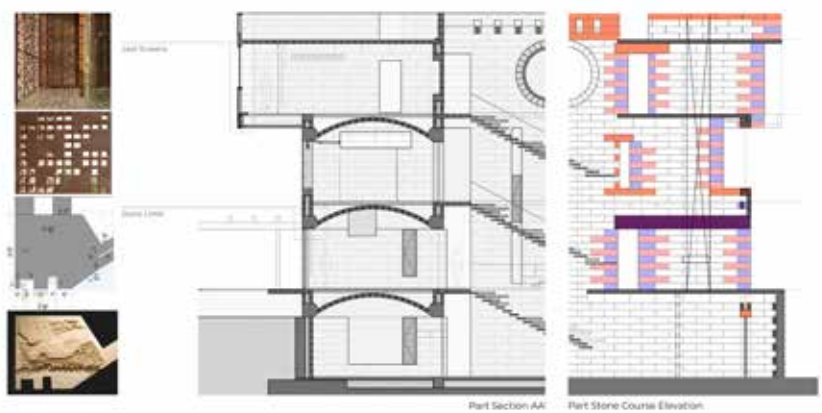
Jury Comments: The architect has virtually revived age-old stone-craft by adapting it to a modern situation. The collaborative effort of the architect and the stone mason is indeed exemplary, showing how an innovative approach can invigorate age-old local crafts.

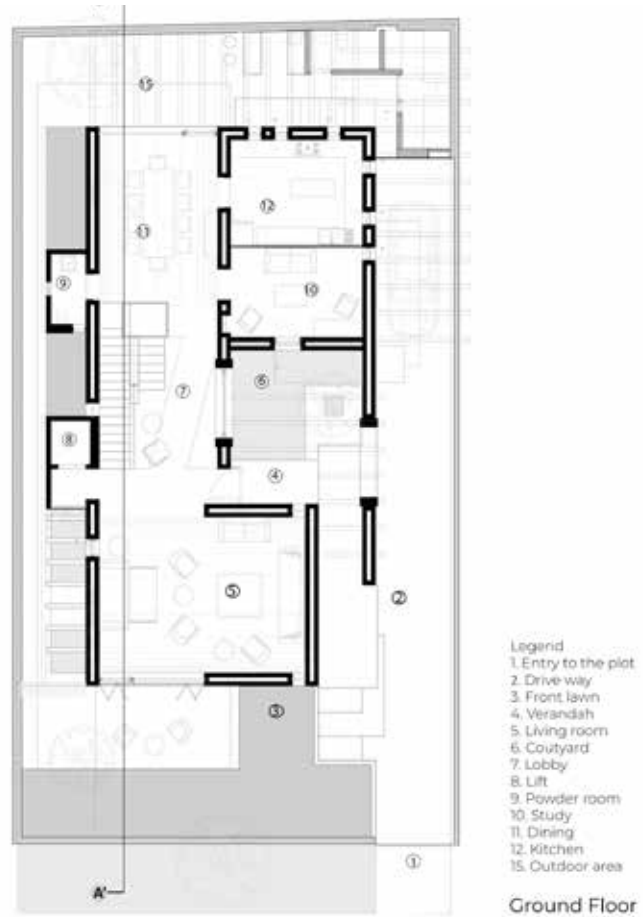
The site is located in Jaipur, Rajasthan that is synonymous with sandstone as a building material but sadly, over the last few decades, this material has been reduced to a *'cladding'* medium and its potential as a robust and sustainable structural element has not been explored.

The house in Jaipur presented us with an opportunity to explore and evolve a method of building that has been prevalent in traditional buildings for centuries. We laid out a simple brief: no material other than stone should be used for construction.This made us dive deeply into the art of *'making'* with stone and the first sketches were the confluence of traditional knowledge reinforced with cutting-edge engineering.

The traditional method of load bearing construction relied on the impermeable thickness of walls. This was re-engineered to develop a hollow interlocking structural wall system that creates a more effective thermal break, provides space to integrate services within the wall cavity, and effectively reduces the material consumption by 30%.

Floor systems alternate between vaults and large single span stone pieces. Every building element from the basement raft/retaining walls/ lintels/door and window jambs/reveals/stairs/screens etc has been made from stone blocks, either from the quarry (superstructure elements) or excavated from the site (substructure elements).





Ground Floor

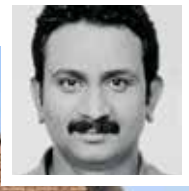
The house is arranged around a narrow courtyard that extends into even narrower slits and fissures as it weaves its way through the house, essentially drawing on the proportions of voids and interstitial spaces of traditional dwellings as a method to counter the effect of the harsh summer sun.

The site reads more like an archaeological excavation than an active construction site, where the line between the found and the 'made' is continuously blurred.

Project cost:
Prior to finalizing this construction method, and owing to a limited budget, a detailed comparison between the "All Stone" method, "Reinforced Stone", and "Conventional" Structure (i.e. R.C.C. frame, Civil infill, exterior stone cladding, internal plaster, and paint) was prepared. Owing to the project location, the proximity to the material and local labor rates, reducing the number of agencies on site, etc, it was concluded that building in stone was actually cheaper than the conventional alternative.

Time and cost was reduced due to the set method of quarrying, which also gave the project a balance between natural (Earth imprint) and smooth handmade finishes.

Prolonged life cycle and recycle ability of a stone structure:
By focusing on a single building material that requires negligible processing between the quarry and its final application on site, and has a low embodied energy; the usage of other higher impact materials has been reduced or eliminated from the project.



COURTYARD HOUSE

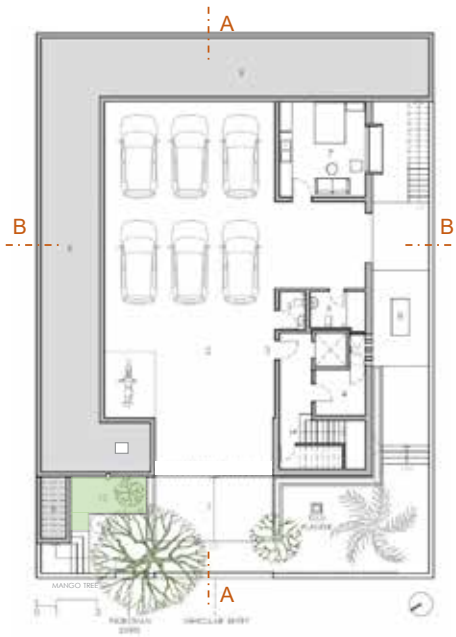
Pune

Architect
Ar. Sunil Humane

Jury Comments: This project exhibits a sensible translation of the nostalgic past into the making of a modern house. A clever composition of apt technology, sleek interiors, and abundant natural light and ventilation through courtyards is evident. This cosy home thereby preserves the family's behaviour pattern.

Set in a very dense urban classy locality of Pune, designing this home for four gave us and the clients an opportunity to delve into our fundamental shared likings and make surreal 'Spatial Connections' as its core concept. The constricted plot and taller surrounding structures, made introverted planning and internal visual connections very vital.

The project with old-style Brick façade, has a very contemporary massing with use of Aluminium fins / louvers to block the harsh sun and heat from the south side. Play of levels and their interconnections helped us plan for this five-room villa along with 6 car parks, and still not giving it a feel of stilts.



LEGENDS

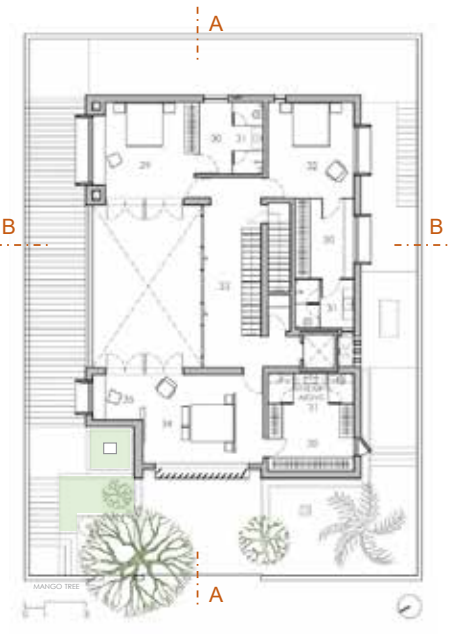
1. RAMP
2. PARKING
3. PRIVATE ENTRY
4. STORE ROOM
5. POWDER TOILET
6. SERVANT TOILET
7. SERVANT ROOM
8. GENERATOR
9. EARTH
10. LANDSCAPE

LOWER GROUND FLOOR LAYOUT

LEGENDS

11. STATUE COURT
12. MAIN ENTRANCE
13.ENTRANCE LOBBY
14. LIVING ROOM
15. MUDROOM
16. POWDER TOILET
17.GUEST BEDROOM
18. ATTACHED TOILET
19. KITCHEN
20. STORE
21. UTILITY
22. DINING
23. PUJA ROOM
24. DOUBLE HEIGHT COURTYARD
25. PASSAGE
26. COURTYARD
27. WATER BODY
28. BACKYARD

UPPER GROUND FLOOR LAYOUT



LEGENDS

29. KID'S BEDROOM
30. WALK IN WARDROBE
31. ATTACHED TOILET
32.MASTER BEDROOM 01
33. PASSAGE
34.MASTER BEDROOM 02
35. STUDY AREA

FIRST FLOOR LAYOUT

An existing Mango Tree is where the design began and it embraces the whole arrival area beautifully. The arrival steps further extend visually into the landscaped peripheral open space through a brick Jali and also through entry into the central courtyard.

The courtyard, inspired from the traditional houses, befits the most living, breathing and connecting space of this home. All Living spaces on upper ground and first floor getting visually connected through the courtyard by louvered wooden windows, the north light beautifully captured through its double height, cross ventilation through its turbo system and the connected landscaped space makes this place, the heart (and lungs) of the house and its residents.

The long spans of the house are designed with structural steel to reduce the beam depths, also reducing the no. of columns and making the interiors look more spacious and seamless. Wood used for large door frames, windows, louvers and subtle the colours on walls, compliment well with the brick colour and greys of the metal. The striking light fixtures along with the handpicked loose furniture, warm colours of the soft furnishing, paintings and artefacts, give the interior a very opulent look and feel.

THE CIVIL ENGINEER HOUSE

Trichy

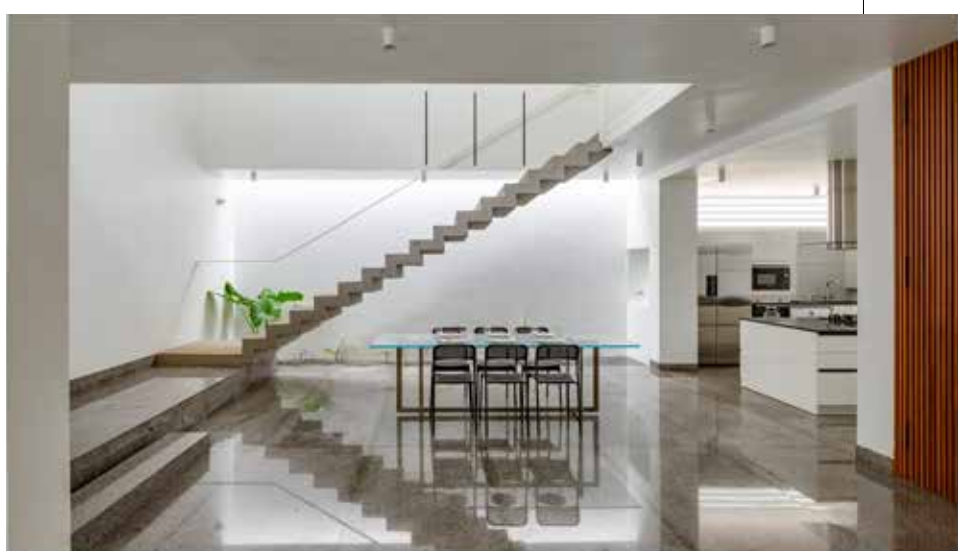
Architect
Ar. Alvin Albert

Jury Comments: A truly bold, minimalistic and sleek form and space were attempted in a tropical environment without sacrificing comfort levels. Great attention is paid to simplistic details and quiet charm.

The client is a civil engineer with an in-depth knowledge of construction techniques and energy modulation and has constructed more than 4000 houses in this region. We gathered the inputs from the client and developed a concept that gave maximum comfort from an energy efficiency perspective.

In the shuttle-wise white boxes with customized steel fins on the exterior, an arithmetic representation of the house number is inscribed on a stainless-steel rotating cube, and Also The House no.26 has been cut out on the front floating slab to create a beautiful night view projection, Creating a minimal, Unconventional and Captivating Elevation.

The house sits on a 40' x 60' rectangular site facing north. since the site is situated in a sub-tropical area where the temperature difference between low to high is around 12°c (28° - 40°). In order to harvest the coolness during the night-time, large openings have been proposed at the ground and first-floor roof levels with ventilators at the double-height areas to let out the hot air during daytime as it rises up due to the stack effect and helps in constant ingress of fresh air into the building.

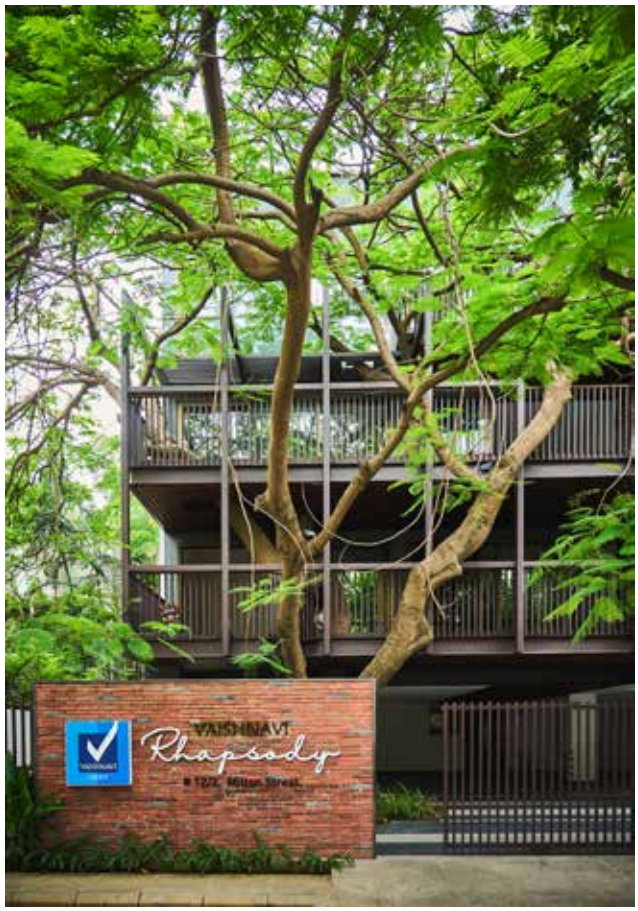


The Island kitchen and exposed concrete staircase are visually appealing. Door glass from a Scrap Washing Machine is fixed at the front Cantilevered Projection of the Kitchen to Provide a Street View for BRUNO(Client's Pet).

Customized steel fins were deliberately designed to obstruct any direct view from the outside and provide minimal vision from inside to the out. The outside noise level is reduced due to the design pattern of the steel fins. The volcanic ash layer has been plastered over the all-exposed walls including the rooftop, Recycled furnace brick flooring is laid in the car park to avoid heat radiation. Entire rainwater is harvested in the sump with a measuring scale. By adopting various energy-efficient measures the power consumption has been reduced to 350inr(5$) per month which is 60% lesser than the prior abode. In order to adopt Green Building Practise, a lot of Industrial Discarded materials from CASTING, FORGING & MACHINING Industries have been used in this House.

In order to retain the absorbed coolness during the night-time, We have avoided having windows at the outer periphery, during the daytime, the temperature inside the house is 8°c cooler than outside across all seasons.

In conclusion, This house is extracted from others in engineering and architectural prospects.



VAISHNAVI RHAPSODY

Bangalore

Architect
Ar. Arjun U Nambisan

Born of a vision of inhabiting nature without oppressing it; finding a balance between the vibrant outdoors and the comfort of a home, the project is reminiscent of a unique heritage, achieved through nature-responsive design, founded on a unique mindset: ***"the landscape and its trees being the hero - ingredient of a living space."***

Located in the Colonial area of Old Bangalore, this multi-dwelling unit is a true escape from the concrete jungle. As the site was dotted with approximately twenty trees a combination of Gulmohar, Mango, Christmas, Brassica and Silver OakTrees, the main priority was to incorporate all of them into the floor layouts as far as possible, as opposed to cutting them down, clearing up, and constructing on an empty site.

The design underwent numerous iterations in our commitment to transform the initial immovable obstacles, into magnificent rewards of comfort while keeping in mind the feasibility of the structure by maximizing the FAR.

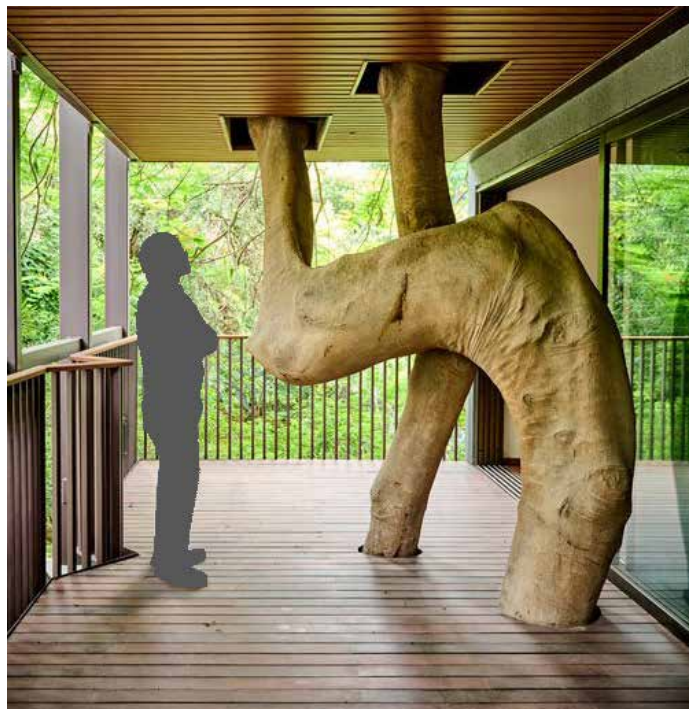
SECTION CUTTING THROUGH COURTYARDS AND FRONT DECKS

CONNECTING INDOOR & OUTDOOR SPACES

The success of the project implied a particular and systematic care about those trees. Hence, several challenges had to be overcome, all while remaining mindful of Bangalore's bye-laws.

The success of the project implied particular and systematic care of the existing trees, through the construction period to the delivery of the project. Different survey technologies were employed and played an essential role in understanding the site from the ground up: A GPR tree root survey, in addition to the topographical survey, allowed us to dig a structurally solid foundation while preserving the proper soil anchorage and safety of the surrounding trees. Furthermore, a LiDAR 3D survey provided an accurate mapping of the trunk and branches of all the trees, which served as a natural imposed canvas for the conceptualisation as if we were sculpting the building around the trees to integrate rather than to cut.

This challenge sparked new creative extents, providing initial designs ranging between six row houses to eleven smaller apartment divisions, before finally resulting in an optimum layout of five apartments and two duplexes.



The idea to scoop out the massing while accommodating the existing trees enabled an ease of construction by barricading said trees with protective framing. A permanent Horticulturist on board aided in the understanding to adapt the necessary leeway space needed for the branches need in case of further growth and sway due to winds.

The use of hybrid construction methods composing of light weight structural steel for flexibility provided large spans without interfering with the root structure below. The large decks and tall windows gave a mix of natural and modern to feel just like a bungalow, resulting with a stunning view of a tree court for every unit, in addition to the spacious living areas.

The true comfort of a modern residence was achieved, in the refreshing presence of long-lasting greenery.

Research Paper - WINNER

BENCHMARKING CRITICAL CRITERIA FOR ASSESSING SUSTAINABILITY OF RESIDENTIAL BUILDINGS IN TROPICAL CLIMATE

Ar. Nina Lazar & Ar. Chithra K
Department of Architecture & Planning, National Institute of Technology Calicut
Email: ninaanna13@gmail.com; chithrak@nitc.ac.in

Jury Comments: The paper shows a very articulated methodology to finalize the parameters and has a definite theoretical contribution to research. It has clarity of aim and coherence of methodology.

This is a summary of the paper published in Journal of Building Engineering (October 2021). Vol. 45, Article 103467.

1. INTRODUCTION

The efforts made in the construction industry to accomplish Sustainable Development Goals (SDGs) are widely recognized as Green Building Rating Systems (GBRS). GBRS involves multiple sustainability criteria to assess building sustainability [1,2]. Each sustainability criterion is associated with predetermined scores allocated to buildings based on their performance with reference to predetermined benchmark values. Benchmarking sustainability indicators is done to identify and mark the best and worst performance possible for buildings corresponding to each indicator. The maximum score is achieved if the building shows the best performance, and the minimum score if the building delivers the worst performance. Even though numerous GBRS have been developed, most systems are criticized for non-scientific benchmarks [3–8]. The GBRS requires an entirely different approach for different regions [9–12] due to the difference in priorities respecting the culture, economy, climate and jurisdiction of that particular region. Hence, researchers, academicians, and practitioners are compelled to customize the existing GBRS to address the contextual variations [4,13]. An exhaustive review of the published research indicates a lack of reported research establishing region-specific benchmarks [14–18]. Most countries witness different climates for different regions [19] and necessitate a unique assessment system for different regions, with priority weights and benchmarking system with respect to regional requirements, especially in India, where it experiences diverse climatic conditions. Hence the current research attempts to develop the benchmarks for critical sustainability criteria focusing on the residential buildings in the tropical climatic region of India.

METHODOLOGY

The methodology involves multiple phases as shown in Figure 1. The methodology is developed could be adopted in all contexts by involving experts, stakeholders, and local standards of that particular context.

PHASE I: Establishing the hierarchy tree involves identifying, classifying, and prioritizing sustainability criteria influencing the

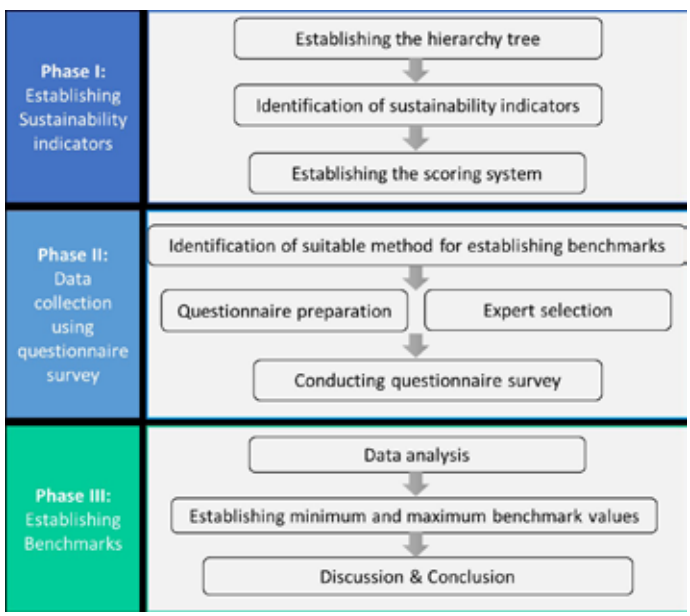


Figure 1: Methodology flowchart *(Source: Authors)*

residential buildings of India's tropical climatic zone through literature study and expert interview, which is already reported [11,12]. In order to measure the performance of buildings corresponding to each critical sustainability criteria, sustainability indicators are identified referring to the published research and existing GBRS. Further, the scoring system corresponding to each sustainability indicator is also established.

PHASE II: The identification of appropriate method for establishing benchmarks is critical. The comparative study of several methods revealed the Delphi technique as the most suitable method. The Delphi technique involves multiple rounds for reaching the predetermined consensus level [20]. Subsequently, the questionnaire is prepared to document the judgement of experts on benchmark values corresponding to each criterion. Experts from diverse domains are chosen respecting the comprehensive and multi-disciplinary nature of sustainability assessment of buildings.

PHASE III: The process involved in the Delphi technique is illustrated in Figure 2. The data collected in the form of multiple-choice options for continuous indicators are analyzed to establish the minimum and maximum benchmark values with a consensus level of 66%. The data collected in the form of ranking for discrete indicators are analyzed to establish priority weight for the sub-indicators, with Kendall's W value greater than 0.6 representing strong agreement.

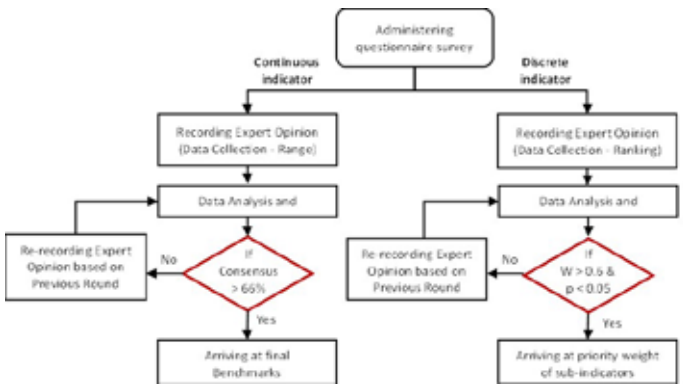


Figure 2: The process involved in the Delphi technique
(Source: Authors)

ANALYSIS AND RESULTS

Ninety-two sustainability criteria influencing the residential buildings of India's tropical climatic zone are established through literature study, content analysis, and consulting experts. The critical sustainability criteria established are classified into eleven sustainability categories and three sustainability dimensions and are already reported [11,12]. Further sustainability indicators are identified through the review of existing GBRS corresponding to each sustainability criterion to measure the performance of buildings. A questionnaire is prepared to establish the benchmark values incorporating all those indicators requiring expert opinion to establish the benchmark values. The questionnaire is prepared in four sets considering the diverse aspects covered by the sustainability indicators. Professionals from the building industry with at least five years of experience in the specific aspects are selected as experts through purposive sampling. In the initial round of the Delphi survey, each set of the questionnaire is sent to thirty-five respondents. The judgement of the experts is analyzed, and a majority of the responses failed to achieve the predetermined consensus level. Therefore, the second round of the Delphi survey is necessary. In the second round, each set of the final questionnaire is updated with the results of the initial round of the survey. The responses are analyzed, and most of the responses achieved the predetermined consensus level. Hence, the third round of the Delphi survey is necessary only for those questions that failed to achieve the predetermined consensus level. The responses are analyzed, and almost all the responses achieved the predetermined consensus level at the end of the third round of the Delphi survey and benchmarks were established based on results.

REFERENCES

1. G.S. Vyas, K.N. Jha, Identification of green building attributes for the development of an assessment tool: a case study in India, Civil Engineering and Environmental Systems. 33 (2016) 313–334. https://doi.org/10.1080/10286608.2016.1247832.

2. Z. Gou, D. Prasad, S. Siu, -Yu Lau, Are green buildings more satisfactory and comfortable?, Habitat International. 39 (2013) 156–161. https://doi.org/10.1016/j.habitatint.2012.12.007.

3. R. Y. J. Siew, M. C. A. Balatbat, D. G. Carmichael, A review of building/infrastructure sustainability reporting tools (SRTs), Smart and Sustainable Built Environment. 2 (2013) 106–139. https://doi.org/10.1108/SASBE-03-2013-0010.

4. AlWaer, Kirk, Building sustainability assessment methods, Proceedings of the Institution of Civil Engineers - Engineering Sustainability. 165 (2012) 241–253. https://doi.org/10.1680/ensu.10.00058.

5. D. Rinchumpoo, C. Eves, C. Susilawati, The Comparison of International and Local Sustainable Assessment Tools of Landscape Design for Housing Estate Developments: Case of Bangkok Metropolitan Region, Thailand, in: Proceedings of 2010 International Conference on Construction and Real Estate Management, Vols 1-3, 2010: pp. 447–451.

6. Z. Gou, X. Xie, Evolving green building: triple bottom line or regenerative design?, Journal of Cleaner Production. 153 (2017) 600–607. https://doi.org/10.1016/j.jclepro.2016.02.077.

7. N. Lazar, K. Chithra, Green Building Rating Systems from the Perspective of the Three Pillars of Sustainability Using Point Allocation Method, in: H. Drück, R.G. Pillai, M.G. Tharian, A.Z. Majeed (Eds.), Springer Singapore, Singapore, 2019: pp. 151–165. https://doi.org/10.1007/978-981-13-1202-1_14.

8. N. Lazar, K. Chithra, Green Building Rating Systems from the perspective of three pillars of Sustainability through Building Lifecycle, (2018).

9. Z. Shari, V. Soebarto, Comparative review of existing building performance assessment systems: appropriateness for the context of emerging/developing countries, International Journal on Sustainable Tropical Design Research & Practice. 8 (2015) 2–13.

10. J. Šaparauskas, Multiple Criteria Evaluation of Buildings with Emphasis on Sustainability, Journal of Civil Engineering and Management. 9 (2003) 234–240. https://doi.org/10.1080/13923730.2003.10531334.

11. N. Lazar, K. Chithra, Prioritization of sustainability dimensions and categories for residential buildings of tropical climate: A multi-criteria decision-making approach, Journal of Building Engineering. 39 (2021) 102262. https://doi.org/10.1016/j.jobe.2021.102262.

12. N. Lazar, K. Chithra, Evaluation of sustainability criteria for residential buildings of tropical climate: The stakeholder perspective, Energy and Buildings. 232 (2021) 110654. https://doi.org/10.1016/j.enbuild.2020.110654.

13. A. Sharifi, A. Murayama, A critical review of seven selected neighborhood sustainability assessment tools, Environmental Impact Assessment Review. 38 (2013) 73–87. https://doi.org/10.1016/j.eiar.2012.06.006.

14. N. Lazar, K. Chithra, A comprehensive literature review on the development of Building Sustainability Assessment Systems, Journal of Building Engineering. 32 (2020) 101450. https://doi.org/10.1016/j.jobe.2020.101450.

15. N. Lazar, K. Chithra, Comprehensive bibliometric mapping of publication trends in the development of Building Sustainability Assessment Systems, Environment, Development and Sustainability. 23 (2021) 4899–4923. https://doi.org/10.1007/s10668-020-00796-w.

16. S.M. Amin Hosseini, A. de la Fuente, O. Pons, Multi-criteria decision-making method for assessing the sustainability of post-disaster temporary housing units technologies: A case study in Bam, 2003, Sustainable Cities and Society. 20 (2016) 38–51. https://doi.org/10.1016/j.scs.2015.09.012.

17. R.D. Raut, S.S. Kamble, M.K. Jha, An assessment of sustainable house using FST-QFD-AHP multi-criteria decision-making approach, International Journal of Procurement Management. 9 (2016) 86–122.

18. Z. Gou, S.S.-Y. Lau, Contextualizing green building rating systems: A case study of Hong Kong, Habitat International. 44 (2014) 282–289. https://doi.org/10.1016/j.habitatint.2014.07.008.

19. H.E. Beck, N.E. Zimmermann, T.R. McVicar, N. Vergopolan, A. Berg, E.F. Wood, Present and future Köppen-Geiger climate classification maps at 1-km resolution, Scientific Data. 5 (2018) 180214. https://doi.org/10.1038/sdata.2018.214.

20. S.H. Alyami, Y. Rezgui, A. Kwan, Developing sustainable building assessment scheme for Saudi Arabia: Delphi consultation approach, Renewable and Sustainable Energy Reviews. 27 (2013) 43–54. https://doi.org/10.1016/j.rser.2013.06.011.

Research Paper - COMMENDATION

PROTAGONISTS IN LEARNING: STORYTELLING PRACTICES IN AN ARCHITECTURE SCHOOL

Ar. Akshaya Lakshmi Narsimhan and
Ar. Sneha Sridhar

Jury Comments: The paper shows participatory qualitative research, with an established pedagogic theoretical framework with original, grounded conclusions.

The story form is a cultural universal; everyone everywhere enjoys stories. The story is not just casual entertainment; it reflects a basic and powerful form in which we make sense of the world and experience (Egan, 1988, p. 21). The bachelor of architecture curriculum in India subscribes to a fairly non-hierarchical system and proposes a non-prescriptive studio format, allowing for peer and self-reflective learning. While the Architectural Design Studio lies at the core of the B. Arch. program, attempts have been made to decentralise the prescribed curriculum by transplanting teaching methods from one discursive context to another. Design projects undertaken within the architecture course are concieved and structured as stories, further rooting the practice of storytelling within design education.

The levels of cognitive learning, according to Anderson's and Krathwol's revised Bloom's Taxonomy, are remembering, understanding, applying, analysing, evaluating and creating. One can identify several learning opportunities within the storytelling format, depending on the nature and goals of the exercise. Jerome Bruner distinguishes two predominant methods of thinking and writing, the first which he calls the paradigmatic mode is typified by the 'argument' and governed by scientific reasoning, logic, and efficient explanation (Bruner, 1996, pp. 102-114). The second, hermeneutic narrative mode is influenced by experience, intuition, introspection, and whim; this mode is embodied by the story.

This paper explores the use of storytelling as a pedagogical prop to mediate the teaching-learning process through knowledge exchange and creative thinking. The authors develop 4 approaches within storytelling pedagogies that mediate between Jermone Bruner's hermeneutic and paradigmatic models using a biaxial system. While the horizontal axis originates from Bruner's dichotomous pedagogical outlook, the vertical axis emerges from an analysis of the learning outcomes expected in a design studio environment.

1. Translative Approach

The primary objective of the Translative Approach is the retelling or documentation of a pre-existing narrative. This approach employs a convergent thinking model where students focus on representations using varied media, focusing on building tangible skills. In the Translative Approach, re-portrayal and depiction become dominant learnings, with analysis and reflection as recessive learnings. While the originality of content is secondary, applicational skill and tact are of paramount importance.

2. Interpretive Approach

The Interpretive Approach focuses on critically evaluating and assessing societal, cultural, and aesthetic concepts, systems, and values. This approach is analysis-driven, relying on inferences made from observation and documentation. Though the assignments are framed with objectives and constraints, the range of creative directions that can be taken during the stages of analysis, evaluation, and creation are diverse. While the Translative Approach is focused on the ability to reproduce acquired knowledge, the Interpretive Approach is reflective and exploratory. This process offers a pedagogical strategy that can be used to reflect on oneself and one's relationship with the world.

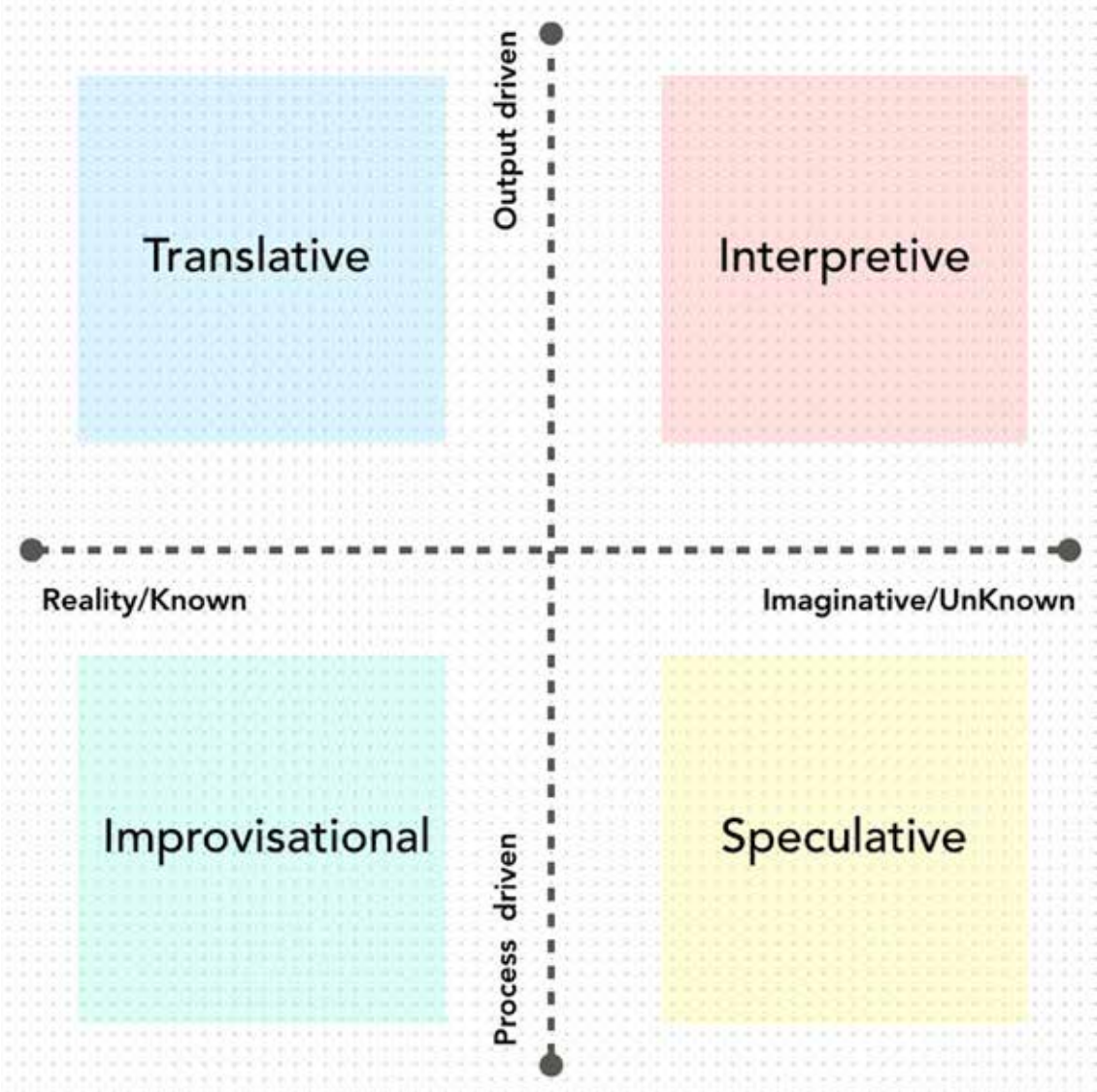


Fig.: The proposed pedagogical approaches are positioned on a biaxial plane, between the intersection of paradigmatic and hermeneutic-narrative models and learning outcomes.

3. Improvisational Approach

The Improvisational Approach has each individual play a critical role within a larger collective. The improvisational technique seamlessly facilitates communication and exchange between units that simultaneously contribute to a cohesive whole. Questioning the roles of the spectator and the protagonist, the adoption of this method works at two levels. At a micro level, students independently sharpen their ability to scrutinise existing parameters and extemporise new ways of thinking and doing. At a macro level, students learn to accommodate and find value in the ideas and skills of peers, critiquing the attitude of 'othering'. The process of participation reveals moments of learning that prove to be more meaningful than the resolution of the project.

4. Speculative Approach

Alternate histories, imagined futures, and design fiction are a few areas where speculative design manifests itself. The Speculative Approach develops from the "realm of the possible" into the "realm of the probable" and expands to create and address new cultures (Google Design, 2019). The techniques within the Speculative Approach commence with a prompt and extend towards a myriad of utopian, idealistic possibilities, that challenge the normative. Through a guided process of sharing stories, the approach creates scenarios that help envisage sensitive, intersectional and accessible futures. Its transcendental nature serves to empower participants and foster a sense of individual and collective agency.

Conclusion

Real storytelling exists in acts of cognition, and not transfers of information. The execution of the proposed approaches relies on the performance of the cognitive actors (students and tutors), within a learning environment designed to facilitate the different approaches. Circumscribed between delivery mechanisms (reality and imaginative) and learning objectives (output and process driven), the four approaches illustrated within this paper, form a well-rounded pedagogical model using storytelling as a teaching-learning tool.

The storytelling formats discussed in the paper, challenge traditional hierarchies and impart agency to the students. The paper thus endorses storytelling pedagogies through the described approaches, to facilitate learning spaces with a myriad of intersectional, expandable, accessible possibilities.

REFERENCES

1. Egan, K. (1988). *Teaching as storytelling: An alternative approach to teaching and the curriculum.* London: Routledge.

2. Bruner, J. (1996). *The Culture of Education.* Cambridge, MA: Harvard University Press

FREEDOM SQUARE: UNBRIDLED EXPRESSION OF THE VALUES OF A CITY

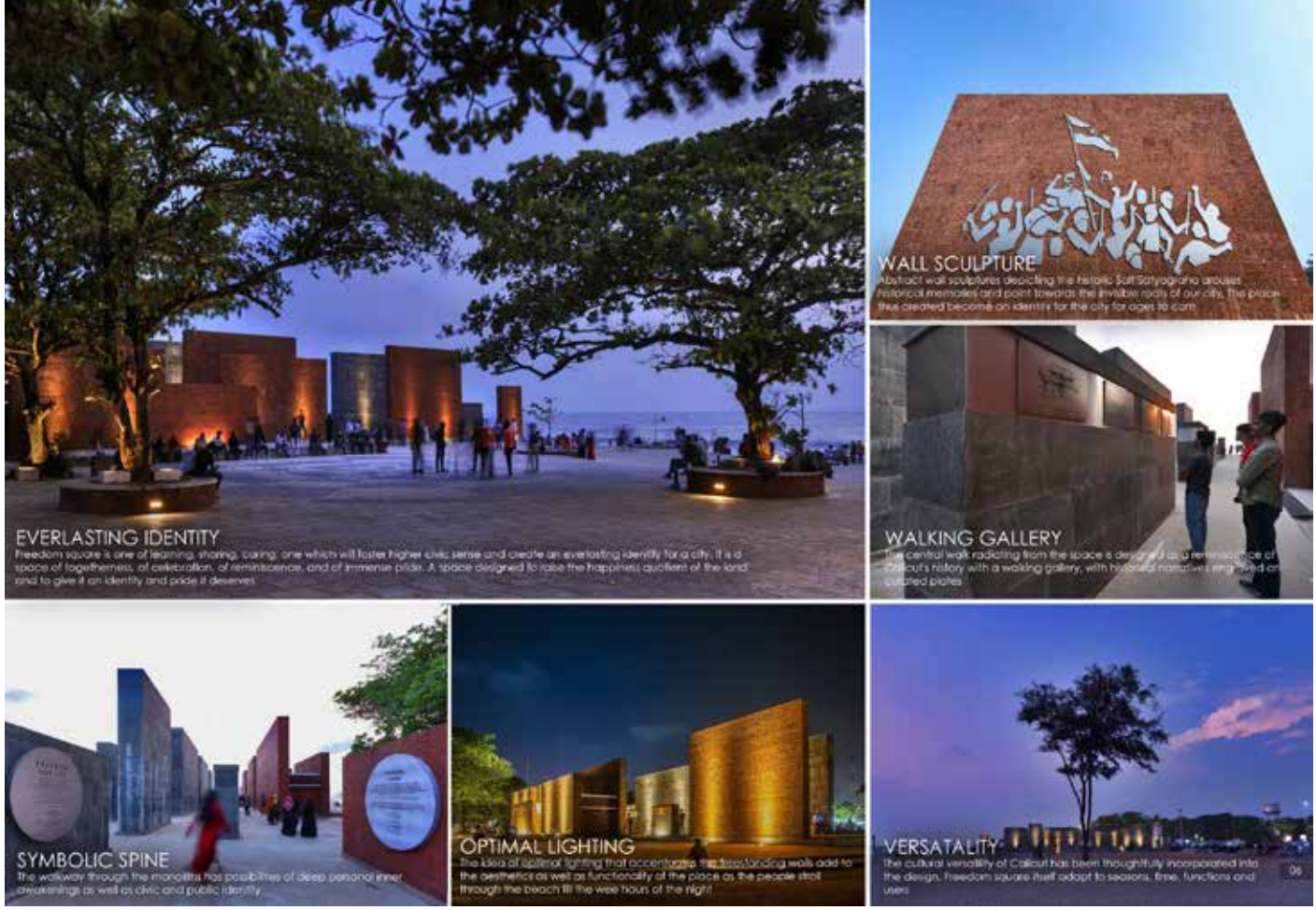
Calicut

Architect
Ar. Vivek PP & Ar. Nishan M

Jury Comments: Michael Rojkind said, 'What do our projects give back? Are our projects capable of being more than just architecture?' With the involvement of IIA Calicut Centre, the Freedom Memorial is a project that is by the people, for the people and of the people. The lines between designers and people blur and the right equations have been built. The power of this project is in its muted presence. The careful handling of materials that are bold deserves special mention. The Memorial is a platform, both literally and symbolically for expressions of the place and its people confer the award on the winner.

The Past: Most of Kozhikottukar or people of Calicut who grew up in the city would have childhood memories woven together by the waves, the wind and the familiar sight of these dilapidated piers. The old beach stage, once stood where the freedom square is now, hosted many historical events and personalities. The beach stage was the most prominent and largest venue for cultural programmes and political conventions in the region. The stage though was just a reminiscence of the past with its structure sinking & dilapidating due to aging. Unfortunately, this stretch of space wasn't a landmark or built space which evoked a sense of the historical significance of the place, and hence the freedom square. "Freedom Square" commemorates the heroic fight and all other historic movements for freedom and liberation of our nation that were staged here.

Wholeness: This project of 36237.88sqft, was conceptualized and realized with design as an integrated solution. A multifunctional space which can revitalize the entire stretch of beach as a nodal point not only from the perspective of public life but also historical and leisure travellers and the citizens themselves. The stage is carefully carved to be a flexible space, diverging the performance stages with a symbolic spine into the sea creating positive spaces. The built area subtly evokes a sense of the multiculturalism of Calicut and its openness to newness. The large main stage facing south is designed for political events and



large functions. The North stage is for cultural events and the central walk radiating from the space is designed as a reminiscence of Calicut's history with a walking gallery, with historical narratives engraved on curated plates. A curio shop will sell the artefacts and collectibles relevant to the region, while the state of the art green rooms will be an asset for the successful functioning of the performance areas. Abstract wall sculptures depicting the historic Salt Satyagraha arouses historical memories and points towards the invisible roots of our city. The place this created become an identity for the city for ages to come.

Versatility: The cultural versatility of Calicut has been thoughtfully incorporated into the design. Freedom square itself adults to seasons, time, function & users. The space is equally open to political and cultural events of various scales. It also acts as a meeting place, a striking photo destination, an urban gym and more. Locally sourced natural materials add a contextual charm. They not only bring in an unaffected rustic charm but also withstands the harsh sea weather, aging gracefully. The freedom square along with the light house and cultural beach, welcomes heritage walks that will raise historical awareness and invites and integrates people to support preservation and conservation of historical monuments. The idea of optimal lighting that accentuates the freestanding walls add to the aesthetics as well as the functionality of the place as the people stroll through the beach till the wee hours of the night. Monolith sculptures enhanced by the light house in the backdrop, stand upright as symbol of Calicut's historical resistance to domination. The walkway through these monoliths has possibilities of deep personal inner awakenings as well as awakening of civic and public identity.

Freedom square is one of learning, sharing, caring, one which will foster higher civic sense and create an everlasting identity for a city. It is a space of togetherness, of celebration, of reminiscence and of immense pride. A garden for art, music, literature and culture to thrive, freedom square give bountiful returns to society. Simply put, a space designed to raise the happiness quotient of the land, and to give it an identity& pride it deserves.

Freedom square is a standing testimony of the endless potential of architecture and urban inserts, in inspiring a better life filled with love, respect and pride.

SISTER LINI MEMORIAL BUS BAY

Kozhikode

Architect
Ar. Vinod Cyriac

Sister Lini PN from Perambra is a radiant memory in the frontlines of the war against the dreadful Nipah virus (NiV) outbreak on 19th of May 2018, in Kozhikode, Kerala. Sister Lini was contracted with Nipah virus and succumbed to death while treating a patient who is believed to be the index patient of the deadly NiV outbreak. In appreciation of the commendable efforts and services of sister Lini, Hon. President of India Sri Ram Nath Kovind conferred her with National Florence Nightingale award 2019. The bus bay at Kallode, Perambra is a memorial in honor of the selfless and caring nurse Lini PN.

Jury Comments: A sensitive intimate project that gives meaning to the last words of Sister Lini, a nurse who did not care for her life while she cared for 17 of her patients inflicted with the NIPA virus. 'I am on my last journey' is metaphorically transformed into a bus-stop that is united in its architectural vocabulary to the memorial which is adjacent to the bus-stop. Together, they become an apt tribute to Sister Lini's selfless act. The architect has donned many hats in the process of realisation of this project - including that of a negotiator in the political space.

Concept

"..... am almost on the way. I don't think I will be able to see you again. Sorry. Please raise our children well....." – Sister Lini PN. The concept of the memorial is synonymous to the 'journey' reflected in sister Lini's last words to her husband. Designed as a place of transit, it reflects how short and impermanent our lives are. More than just a bus stop, it is a living memorial to sister Lini and the 17 people who died due to Nipah. It also symbolizes the togetherness of the people witnessed in combacting the virus.

Context

The site is a linear stretch of land in Perambra, abutting the NH 54, near

MATERIAL PALETTE AND BUILT FORM

The warm palette of materials used include locally available laterite, stone, concrete for the benches, onduline sheet for the roof and terracotta ceiling tiles below. The scale is intimate and the built form merges with the setting.

the Govt. Taluk hospital where sister Lini worked. For her daily commute, she had been using the existing bus stop here. The site is also close to the CKG Memorial Govt. College and Kerala State Backward Classes Development Corporation Ltd Sub Office. There is a shopping complex behind the site, towards the west side. The existing vegetation in the site included an almond tree, a mango tree and two flowering trees.

Design

The design includes a memorial and the bus bay. The bus bay is designed as a semi-open structure in a rectangular plan with built-in seating, exposed laterite walls and single-side industrial sloping roof. MS grills have been provided in between the laterite walls to grow creepers. The bus bay was planned around the existing flowering trees in order to conserve them. Half walls with candle-like installations represent the victims of Nipah outbreak.

Constraints

Both the structures are disjoint due to site constraints but are unified through the architectural vocabulary. The material palette and roof form are same throughout. The bus bay was planned around the existing flowering trees in order to conserve them. However, the execution agency got them cut during the time of construction. New plants were planted in their place as soon as we got to know about it without changing the design. The planting included along with the bus bay represents the hope and faith in mankind.

Innovations

Instead of a typical sculpture, an intangible memorial has been designed in a minimal and thoughtful manner. An illustration of sister Lini, plaques with her last words and a brief description on the Nipah outbreak are displayed in a landscaped area. Waste bins have been designed to prevent public littering, which will imbibe a sense of social and environmental responsibility in the people. Each person who passes through the bus bay will come across the selfless act of sister Lini. The values of her life are depicted as socially relevant messages on the back walls of the bus stop.

A BOND THAT TESTS TIME.

Iconic structures are beautiful and stand for generations without losing their integrity. At Pulkit TMT, our lasting legacy is our commitment to supporting homes and structures that stay firm for ages. Manufactured using world-class Thermex technology and Primary Steel, Pulkit TMT is the right choice to build your iconic landmarks.

MADE OF PRIMARY STEEL

Manufactured using THERMEX® TECHNOLOGY

PULKIT® TMT BARS
Everlasting Relationship

CORPORATE OFFICE
163/1, K.Sons Complex, 1st Floor,
Prakasam Salai, Broadway,
Chennai - 600 108.
P +91 44 4401 2345

Follow us

Scan to visit website

alahasti

Rolling Mill

Induction Heating

INDIAN SPACE RESEARCH INSTITUTE: 21ST CENTURY'S INDIA'S FRONTIER IN SPACE RACE

Souktik Bhattacherjee
Final Year (2022)
Jadavpur University, Kolkata.
bsouktik@gmail.com

Prof. Jayita Guha Niyogi
Professor
Department of Architecture
Jadavpur University, Kolkata
jayitaguha.niyogi@jadavpuruniversity.in

ABSTRACT

India aims to build the space sector into a $50 billion economy by 2024, which will contribute 1% to India's gross domestic product (GDP) (Pandey, 2022). The Indian space market now comprises government institutions, startup companies, and private players to expand in the field of small satellites, launch vehicles, space communication, and architecture. Looking at this boom in the Space Industry, the Indian Space Research Institute is proposed at Kaksa, West Bengal as a part of the Bachelor of Architecture Thesis. The institute brings together space education, a space research facility, a space startup incubator, and a kid's space museum inside a single campus.

Keywords: *Space Technology, Institution, Museum, Incubator, E-cell*

1. Introduction

The 21st century space industry saw the emergence of commercialization of space, development of small satellites, exploring space beyond our solar system, and development of the reusable rocket engine. The Indian Space Research Organization (ISRO), the world's sixth-biggest space organization, serves as a focal point for developing space technology for the nation's growth (ISRO, 2022). The Indian National Committee for Space Research (INCOSPAR) was founded in 1962, by Dr. Vikram Sarabhai under his leadership (Journals of India, 2022). In 1969, this organization became known as the International Space Station or ISRO (Dept. of Atomic Energy, GoI, 2019). Several institutions like the Indian Institute of Space Science and Technology (IISST), the Indian Institute of Technology (IITs), and other National Universities, play a key role in the development and conducting of space research programs. Some of the key areas that must be addressed in the institution are broadening the scope of space education through the introduction of a course on Space Architecture and Small Satellite Research, providing infrastructure for startups in the space industry, and developing infrastructure and facilities to inspire the young generation.

The Space Research Institute will serve not only to educate but to become a nest for our genealogical wings. It will incubate ideas, friendships, knowledge, camaraderie and networking, lecturing, and teaching skills. Since the university is an autonomous body, it can accredit itself and register itself with national and international accreditation systems. The institute is to be built on a 35-acre site at Kaksa, West Bengal near the Panagarh Airforce Base and Industrial belt.

1.1 Aim and Objectives:

The project aims to build the Indian Space Research Institute at Kaksa, West Bengal to strengthen the foundation of the Indian Space Program through education, entrepreneurship, and inspiration.

The objectives of the proposal are:

- To build an ecosystem in the Indian Space Industry to develop Space Technology where Private and Government institutions can cooperate.
- To enable students to learn about new emerging fields of space technology like Space Architecture and Small Satellites and inspire the future younger generation to know the great history of the Indian Space Program.
- To enable easy access to critical resources for Space Startup Companies and directly support the commercial space sector of India. Fig. 1 represents the translation of theoretical objectives in architectural terms.

1.2. Scope:

The Indian Space Research institute comprises the institutional building, research facility, e-cell, kids space museum, community centre, and space garden. All the data collected for the area programming are driven by National By-laws and case studies conducted at relevant institutions. The proposal does consider the land conversion rules of the site, and the design proposal is prepared based on the studies carried out as case studies.

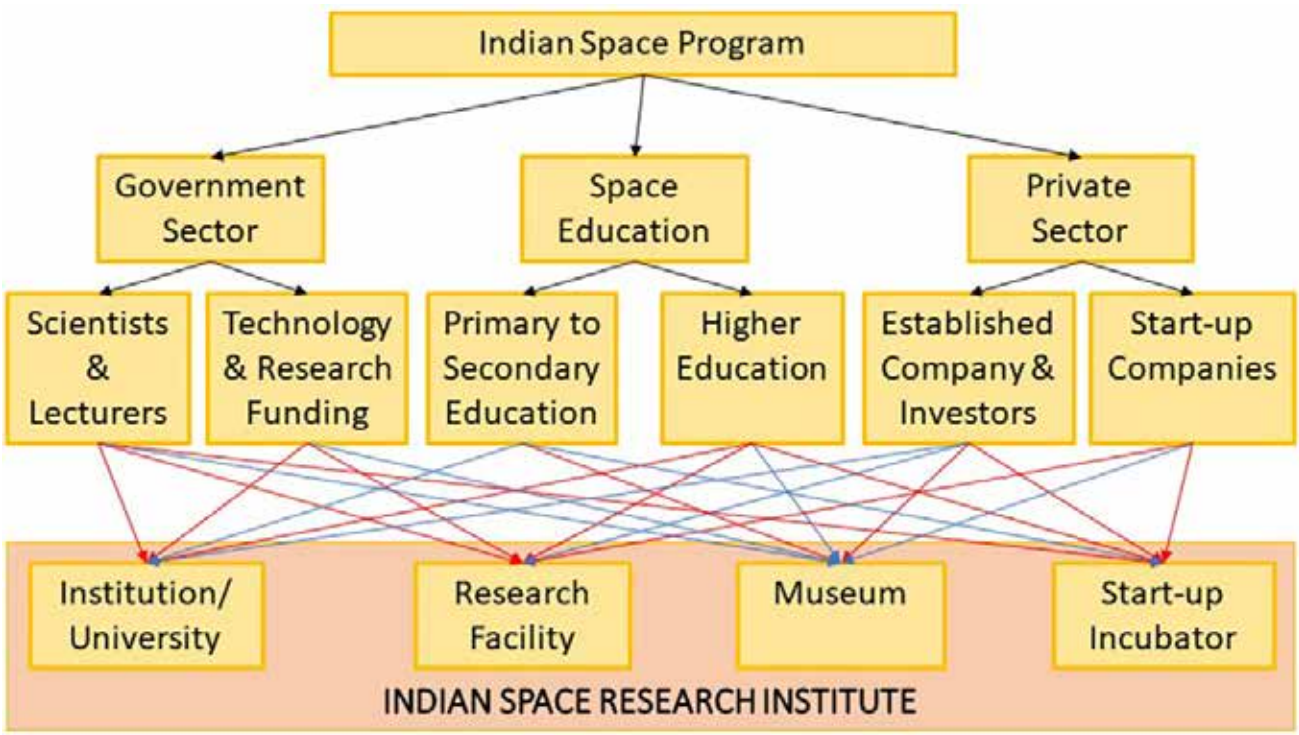


Figure 1: Concept of Indian Space Research Institute
(Source: Author)

2. Literature Study

• *Indian Space Research :* dates from the 1920s with the foundation of the Indian Space Research Organization. Since its inception, ISRO placed independent India in the Space Race. ISRO developed India's first satellite Aryabhatta in 1975 (Jha, 2020) and conducted India's first manned Mission through an Indo-Soviet collaboration (Ainy, 2016). India has worked intensively on the development of launch vehicles, imaging and communication satellites, lunar and martian orbiters, etc. ISRO with 1.7 billion USD in funding, which in comparison to other space agencies is much lower has inspired billions of people worldwide and contributed significantly to the field of space technology (Economic Time, Tech, 2016).

• *West Bengal in Indian Space Research-* Decades before the Independence of India, the India Space Program was initiated by Dr. Sisir Kumar Mitra, a Bengali physicist. He made a remarkable contribution to the study of the Ionosphere and long-distance radio communication, for which he got three times nominated for the Noble Prize in Physics and received several prestigious awards like Fellowship of the Royal Society and Padma Bhushan (Singh,2014; Kumar, 2022). A lunar crater was recently named after him for his contributions (Ramesh & Kumar, 2019). West Bengal is also a centre of modern Space Technology with institutes like the Indian Centre for Space Physics, S. K. Mitra Centre for Research in Space Environment, and Centre of Excellence in Space Sciences India (CESSI).

• *Emerging fields in Space Industry :* With the enhancement of space technology and cheaper space flights, the space industry has opened up branches like space architecture, small satellites, space mining, space manufacturing, etc. Today space has opened up several frontiers to understand earth's activity, combat climate change, gather intelligence, advance manufacturing of products in a zero-gravity environment, etc. It's high time for India to hold the newly emerging fields of the space industry and help India to grow as a centre for space technology.

• *Space Startup Eco-system in India :* With the rise of Startups all across India and enhancement in the commercialization of the space industry, India saw a boost in the development of space startup companies. To develop the most efficient systems and revolutionize the space industry startups are contributing significantly. Startups like Dhruva Space, SatSure, Agnikul Cosmos, etc. received a huge amount of funding from private sectors to revolutionize space. In near future, the availability of startup infrastructures will give Indian Economy a major boost.

3. Methodology

The project is developed in six stages, i.e., literature study, case study, site study, design guideline and area programming, concept development, and design and drawing.

The literature study is done to understand the context of the project. The case study of institutional buildings with the Aerospace department is done to study the institutions that support the Indian Space Program. Planetariums, space museums, and space centres are studied to understand the current scenario of public buildings made to inspire young generations toward the space industry. Startup incubators are studied to understand the infrastructural requirements and interior design of E-cell for space startups in India. From the case study, the design guidelines for the project are developed, and an appropriate site for the project is chosen. After selecting the site, the site study is done to study the site in depth to utilize the site efficiently using certain parameters. After the site study, the final area programming and design guidelines are made for the institution with the relevant by-laws and it proceeded to the concept development stage from where the design and drawings are developed.

3.1. Case Studies

The buildings for the case study are selected based on location, activities, and planning. The buildings that are chosen for the case study are:

a) Indian Institute of Technology Kharagpur, India (primary case study)
b) M. P. Birla Planetarium, Kolkata, India (primary case study)
c) Gujarat Science City, Ahmedabad, Gujarat, India (primary case study)
d) DevX Co-working space, Ahmedabad, Gujarat, India (primary case study)
e) Indian Institute of Technology Kanpur, UP, India (secondary case study)
f) SICSA, University OF Houston, USA (secondary case study)
g) Institute of Space Research, University of Stuttgart, Germany (secondary case study)

These seven projects are analyzed based on spatial arrangements and functional area requirements. From these seven projects, the design guidelines and area requirements are developed for the project.

3.2. Site Study:

Based on the conclusions of the case study the site is chosen. The site that is chosen is located in neighbor to the Shiv Temple and Kankar Khad of Kaksa Colony No: 2 at Kanksa, West Bengal-713148. The site is studied based on the following seven parameters: (1) Location (2) Landform (3) Orientation and climate (4) Movement- access and parking (5) Visibility (6) Activity (7) Form and Space.
The design guidelines for the project from the site are concluded from these parameters.

4. Results/Findings

4.1. Conclusion from Case Studies (Refer Fig. 2) :

a) The ideal teacher-student ratio is 1:10. It will help to determine the sizes and quantity of classrooms, staff rooms, and other facilities.
b) The laboratories that must be present are Aerodynamics Lab, Wind Tunnel Lab, Propulsion Lab, Structure Lab, and Flight Mechanics Workshop.
c) A facility for Space Architecture can be proposed in the institution with additional facilities like a Prototyping laboratory, etc.
d) A small satellite research facility can be proposed in Indian Space Research Institute, for space scientists and students to work on small sat projects, and develop the future of small-sat education in India.
e) An E-cell could be proposed for the institution to support young entrepreneurs and space startup firms to receive infrastructure, mentorship, and access to government grants.

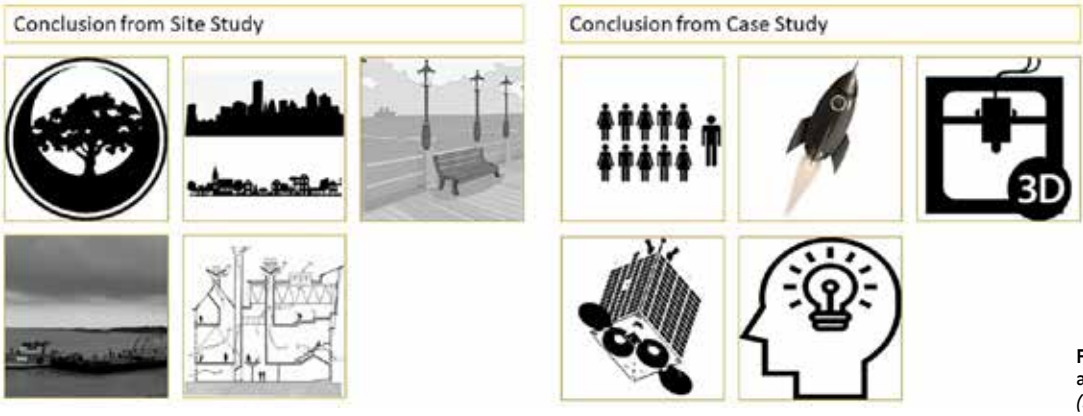


Figure 2: Conclusion from Site Study and Case Study
(Source: Author)

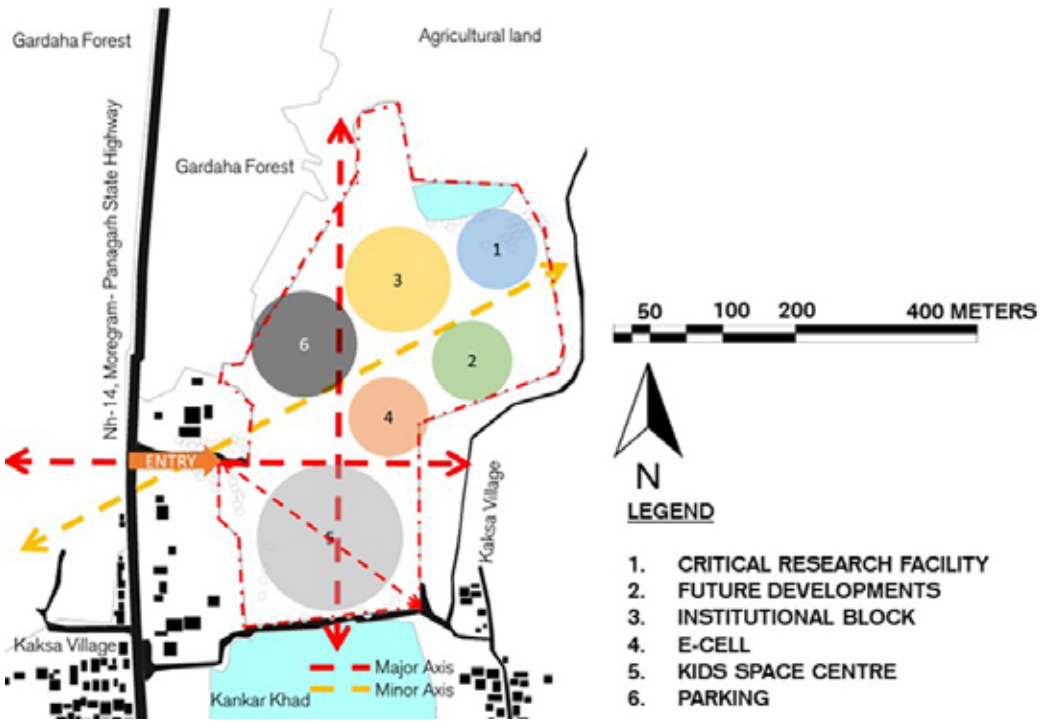


Figure 3: Initial Site Zoning
(Source: Author)

From the case study, the site must be secluded from the urban area and must have the infrastructure to carry out research concerning national security.

4.2. Conclusion from Site Study:

a) Since the site is surrounded by environmental conservation zones, the existing natural elements in the site must be conserved.
b) The built-up forms on the site must aim to conserve the urban fabric of the space.
c) The waterfront can be utilized effectively to create a healthy and active urban environment.
d) Waterfront can be used as an open space for leisure and recreational activities.
e) The passive design strategies that are applicable to warm and temperate climates must be followed while designing the site.

Since the site is located 2.3 km away from Asian Highway 1 which is accessible with Moregram Panagarh State Highway and has Kaksa Colony No:2 and a village at the South corners of the site. The presence of defense infrastructure near the site and seclusion from the main city makes the site ideal for this institutional building to execute.

5. Discussion

5.1. Plan form Design:

a) The entrance road, the water bodies, and the longest path on the site are identified and connected to visually connect and create direct access. Concerning these connections, the basic geometries are developed connecting with the site corners to fully functionally utilize the site, as explained with major and minor axis in Fig. 3.
b) The roads are developed with the geometries and the zoning with a bubble diagram is done as per requirement. With the site geometry and roads made, the longest path on the site is used as a major road connecting all the buildings, and the second largest path is precisely placed on the site to give the institution a runway for aerodynamic testing of avionics models.
c) The site in the first place is divided into three zones in terms of privacy, i.e., public, semi-public, and private. The institution has public zones like Kids Space Museum and Space Garden. The semi-public zone includes an Institutional building and E-cell. The private zone has the Research facility and the Rover Testing facility. So, the furthest corner of the site is aimed to have private buildings, whereas the entrance will have the public zone as seen in Fig. 3.

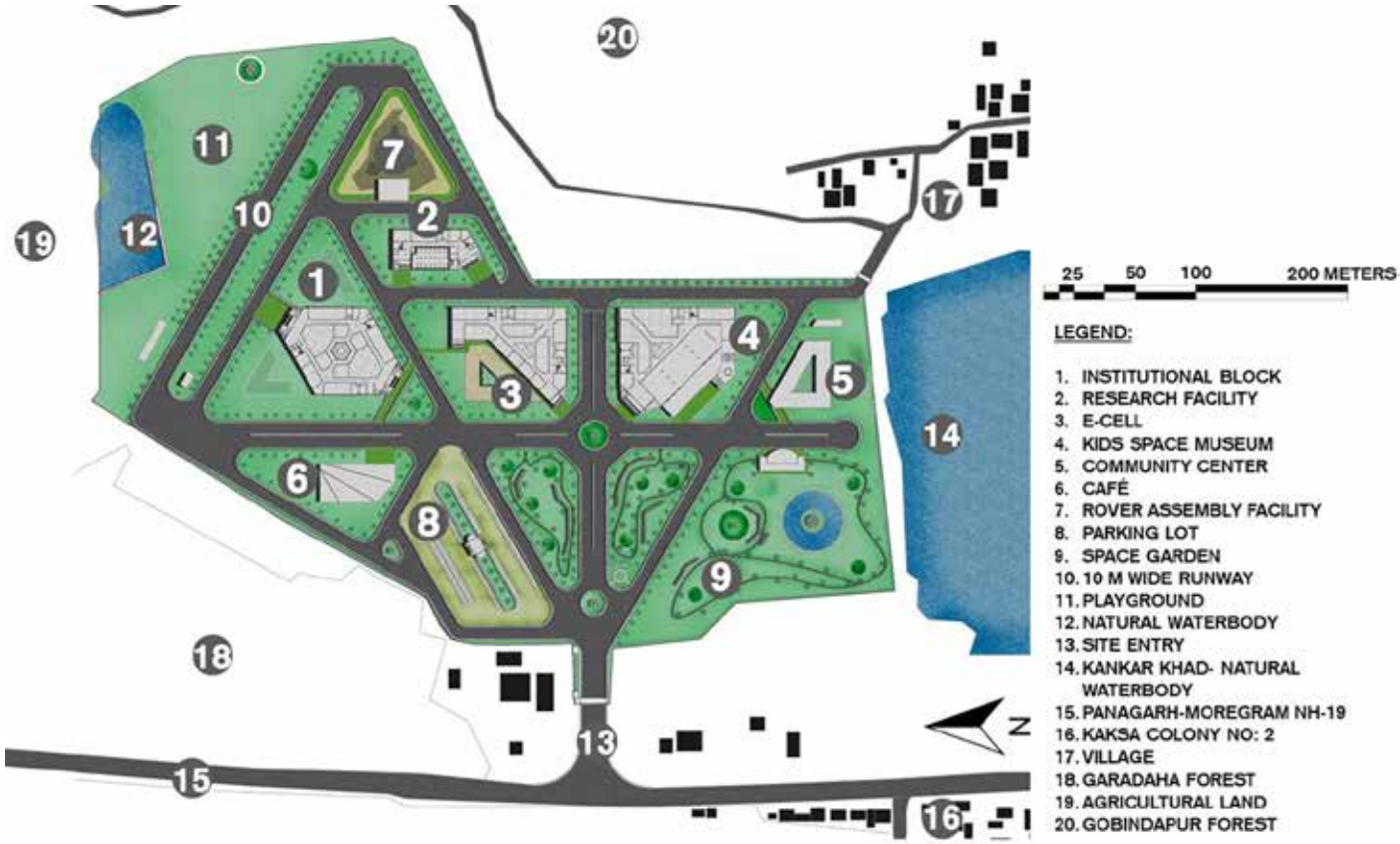


Figure 4: Site Plan
(Source: Author)

d) Now, to utilize the waterfront in the Southernmost part of the site, the Space Museum and the Space Garden are kept near it. Whereas, the research facility is kept at a secured corner of the site and nearer to the North-eastern reserved forest. As per the area requirements, and ground coverage available, the building blocks are placed on the land parcels created by the site geometry.

5.2. Built form Design

a) The building facades are designed as per passive design strategies like using vertical louvers and horizontal louvers with an abstract pattern over them.
b) The built-up spaces are divided into five major building blocks i.e., institutional block, research facility, e-cell, kids space museum, and community centre. (Fig. 4)
c) The institutional block consists of all the infrastructure required for students to learn aerospace engineering and emerging space technologies like space architecture and small satellites. (Fig. 5)
d) The research facility houses a clean room with classrooms and laboratories for critical research and the development of small satellites. The facility is kept separated from the Institutional building block to prevent unnecessary vibration and noise to come in.
e) The E-cell consists of classrooms, workshops, and co-working spaces for space startups to work and incubate their startups under the guidance of experts from the institution. (Fig. 6)
f) The Kids Space Museum has exhibition spaces to showcase India's achievements in space technology, the evolution of space crafts, and capsules. The building includes a 1300 sq.m double-height exhibition area to display the space vehicles and rocket engines with an open-to-air podium attached to it opening towards the Entrance Gate. The building façade features humanity's greatest achievements and the Missile Man of India, Dr. APJ Abdul Kalam. (Fig. 7 and Fig. 8)

Figure 5: View of Institutional Block *(Source: Author)*

g) The community centre is built to give local people a chance to get an education and perform commercial activities thus enhancing the socio-economic condition of the neighborhood.
h) The campus also includes a 10 meters wide Runway for students to experiment with their prototype aircraft models with a sitting gallery for the audience to watch and celebrate aerospace technical fest each year, a Rover Assembly Facility with rocky terrain to test rovers and organize rover competitions, a Space Garden with rocket models and waterbody as a public recreational space, and a cafe for students and visitors. (Fig. 9)

i) Ramps, elevators, and one classroom is provided to make the buildings barrier-free.
j) Building footprints are marked in the neighborhood of the Institutional building block for future expansions as shown in Fig. 4, representing the site plan.

Figure 6: View of the interior of the E-cell co-working space *(Source: Author, created with MidJourney AI)*

Figure 7: View of Kids Space Museum *(Source: Author)*

Figure 8: View of Kids Space Theatre *(Source: Author, created with MidJourney AI)*

Figure 9: View of Space Garden *(Source: Author, created with MidJourney AI)*

6. Conclusion

The Indian Space Research Institute successfully hosts the four main pillars of the Indian Space Program i.e., education, entrepreneurship, research, and inspiration. It will act as a catalyst to boost Indian Space Research and will create awareness among the upcoming generation to aspire to join ISRO. It will create a major impact on the Global Space Market and will house several branches of space technology like small satellites, space launch vehicles, extraterrestrial rovers, space architecture, etc.

REFERENCES

1. Pandey, Shubhang. (March 2022). How Indian Economy Can Be Expanded Through Space Privatisation. Retrieved from: https://swarajyamag.com/science/how-indian-economy-can-be-expanded-through-space-privatisation

2. ISRO (2022). *About ISRO.* Retrieved from: https://www.isro.gov.in/about-isro

3. Journals of India. (Jan. 2022). (January 2022), *Indian Space Research Organisation (ISRO).* Retrieved from: https://journalsofindia.com/indian-space-research-organisation-isro/

4. Government of India, Department of Atomic Energy (August 2019), *Government of India Atomic Energy Commission.* Retrieved from: https://web.archive.org/web/20190829222918/http:/dae.nic.in/?q=node%2F394

5. Jha, Martand. (April 2020). *Aryabhata: Remembering India's first satellite.* Retrieved from: https://www.lowyinstitute.org/the-interpreter/aryabhata-remembering-india-s-first-satellite

6. Ainy. (June 2016). *Indo-Soviet Joined Manned Space Flight.* Retrieved from: https://istampgallery.com/indo-soviet-joint-manned-space-flight/#:~:text=Squadron%20Leader%20Rakesh%20Sharma%2C%20an,Indo%2DSoviet%20Manned%20Space%20Flight

7. The Economic Time | Tech (March 2016), *ISRO to launch sixth Navigation satellite tomorrow.* Retrieved from: https://economictimes.indiatimes.com/isro-to-launch-sixth-navigation-satellite-tomorrow/articleshow/51329356.cms

8. Singh, Rajinder. (2014). *Nobel Prize Nominator Sisir Kumar Mitra F.R.S. - His scientific work in international context.*

9. Kumar, Mitra Sisir. (2022). Vigyan Prasar. Retrieved from: https://vigyanprasar.gov.in/mitra-sisir-kumar/

10. Ramesh, Sandhya; Kumar, Mitra Sisir. (August 2019). *Indian physicist with a crater named after him on moon.* Retrieved from: https://theprint.in/theprint-profile/sisir-kumar-mitra-indian-physicist-with-a-crater-named-after-him-on-moon/282765/

Souktik Bhattacherjee is a graduate of architecture from Jadavpur University, Kolkata (2022), and he has an interest in the field of space architecture and computational design. He was part of SSDW 2021, University of Stuttgart, and published conference papers on space architecture at SSEA 2022, Spain, and ICES 2022, US.

Dr. Jayita Guha Niyogi is Professor at the Department of Architecture, Jadavpur University, Kolkata. She acquired her doctoral degree from Indian Institute of Technology, Kharagpur in 2005. She has 34 years of experience in the architecture and planning profession, teaching and research projects. Her domain of interest includes integrated land use and transportation planning, environmental planning and management and quantitative techniques.

AKSHAY URJA BHAWAN

Sahil Sachdeva & Abhijit Ray

Figure 1: View of Building

Introduction

Akshay Urja Bhawan is an integrated building for the Headquarters of the Ministry of New and Renewable Energy (MNRE) in Pragati Vihar, New Delhi, India. MNRE is the nodal Ministry of the Government of India for all matters relating to new and renewable energy. This building includes the ministerial cabins, staff cabins and workstations, project offices, meeting rooms, classrooms, conference room, automatic car parking, auditorium, amphitheatre, cafeterias and green building resource centre.

The vision is to design a self-sustainable and net-zero government institutional building by using a combination of climate-responsive architecture with energy-efficient technology. To make it accessible to the public, museums, green building resource centre, auditorium and amphitheatre for plays related to architecture, green buildings, cultures and future development were added in the building, all of which are expected to generate revenue. The building hopes to work as a common ground for architects, artists, engineers and other people to connect and exchange ideas of sustainable living.

About the Site

The total site is 11700 square meters in area. It is a corner plot, irregular in shape and sits close to the centre of the Delhi metro-connected zones. The site has a gentle slope and plain contours and lies in the landlocked northern plains. The wind direction is the western disturbance and south-west winds. It lies in seismic zone IV which is considered dangerous in terms of an earthquake. Therefore, preventive measures have been taken while designing the building. The relative position of the sun is a major factor in the heat gain of buildings and in the performance of solar energy systems. The sun path diagram for the site is shown in Figure 1.

The Building

The basic approach is to minimize the harmful effects on the environment, health and comfort of occupants, thereby improving building performance. It also tries to reduce consumption of non-renewable resources, minimize waste and create healthy, productive environments. The building is cuboid-shaped and showcases a modern design with a contemporary appeal, which fulfils the requirements as well.

A sunken court created in the basement provides natural light, ventilation and life to the surrounds. This space can be used as an amphitheatre and provides a strong link to the green areas. They are incentives for learning, providing a comfortable temperature level, thus creating an environment which helps the inhabitants to enhance their creativity and concentration and a zone for interaction of general public. The front garden near the entrance gate is an open exhibition area which provides space for local artists and small businesses to exhibit their products.

The auditorium building is clad in local slate stone fixed with clamps. This highlights the auditorium block and creates a cavity between the wall and the stone which minimizes heat from outside. Natural stones are ideal for effective protection against extreme weather conditions because it contains natural materials like silicate and calcium.

Motorized aluminum louvers on east and west side provide shade to the building and cut the sun and maximize the building's energy efficiency (Fig. 4). Aluminum louvers act as the second skin of the building. Opening and shutting them can be about far more than simply letting in a certain amount of light. They can be opened to maximize natural ventilation and sunlight on colder days, or closed on hot days to cut out the sunlight. This reduces the reliance on air conditioning or central heating for artificial temperature control, depending on the season. Planters in the buffer between the aluminum louvers and main building wall help control the temperature and create a cooling effect and purify the air by reducing carbon dioxide and other pollutants.

Figure 4: Vertical Louvers on East & West Side

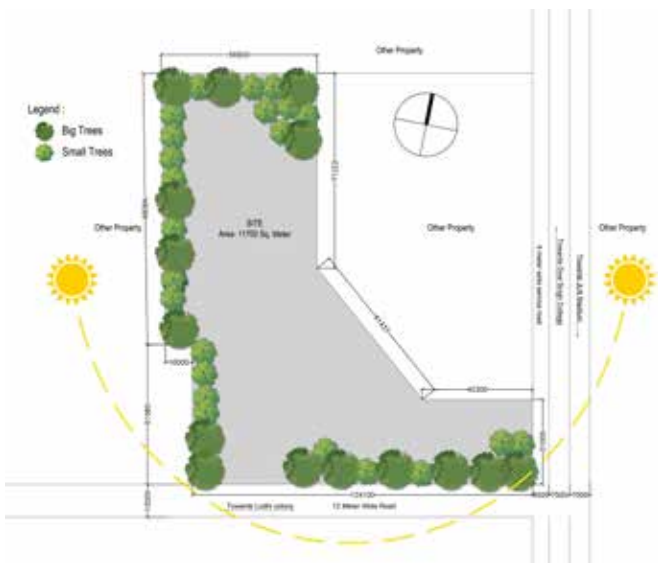


Figure 2: Sun path diagram for the site

Figure 3: Ground Floor Plan

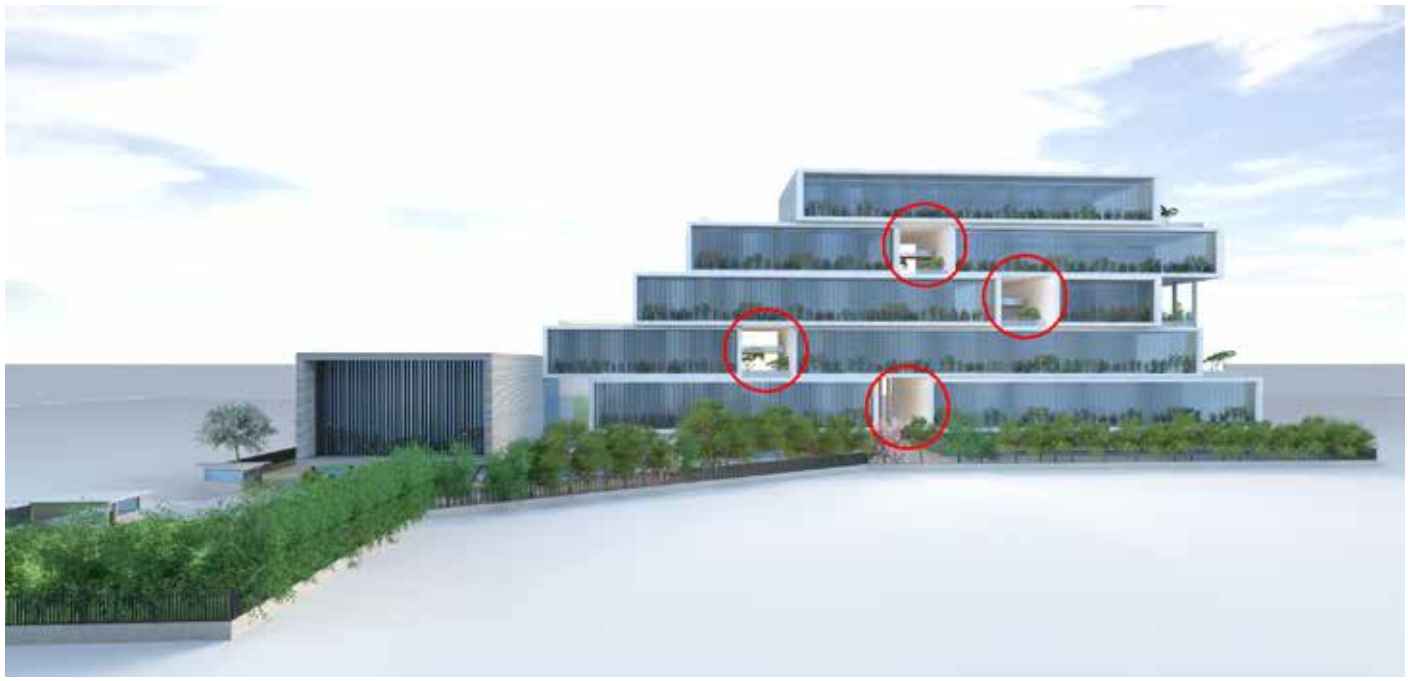


Figure 5: Voids In building

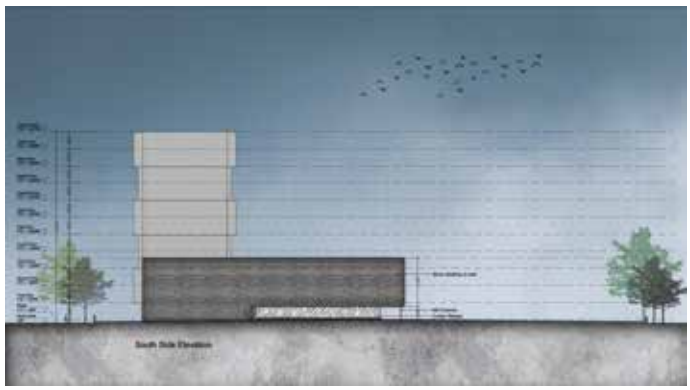


Figure 6: South Side Elevation

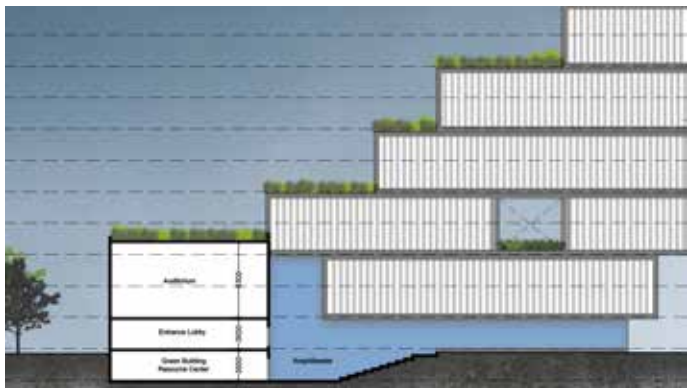


Figure 8: Sunken Court/Amphitheater

Figure 7: East & West Side Elevation

Venturi effect is created in the building by providing voids (Fig. 5), which help increase in fluid speed due to decrease of the flow section in confined flows. It will keep the building cool in summers and hence reduce the dependency on air conditioning. This will help in providing natural ventilation that can be employed in both horizontal and vertical direction in the building.

Approximately 3000 sq.m. roof is covered by solar panels. Solar car parking is also provided on the ground floor setbacks to generate electricity. The solar panels for surface parking also provides shade for the parked vehicle, and can also charge the electrical vehicles, and is convenient to supplement the electricity to the vehicle at any time.

Green pavers or grass block pavers on the ground area are help to percolate the rainwater and recharge the ground water. The porosity of green pavements prevents water

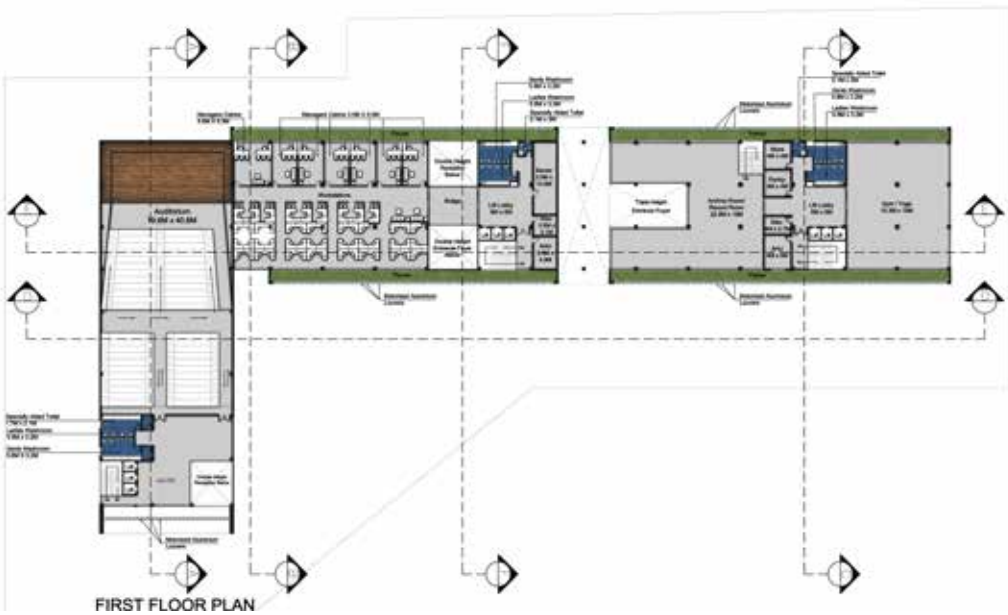


Figure 9: First Floor Plan

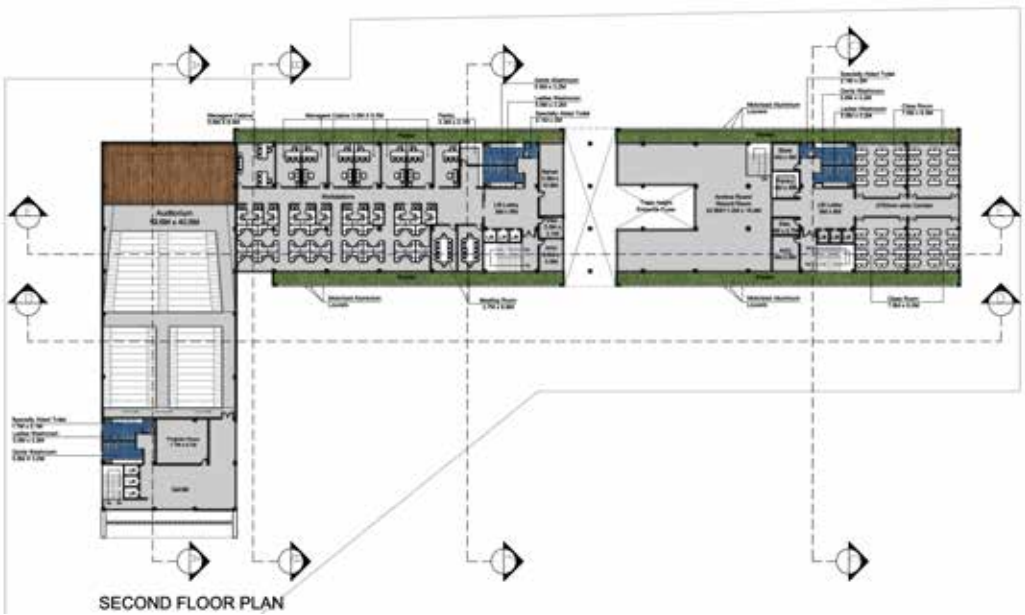


Figure 10: Second Floor Plan

pooling on the pavement helping it dry quickly and lower emission of greenhouse gases as well as the heat island effect. Hence, it is healthier compared to asphalt which has harmful chemicals. The building is surrounded with a lot of trees and shrubs which creates air flow patterns, provides shading and keeps the surroundings cool in warm weather.

LEED-certified carpet flooring in the office area, made of natural fibres, such as wool are environment-friendly, increase energy-efficiency, lower the resource waste and reduce wastage of water. All of these lead to a decreased carbon footprint. Since the materials used in the building are from sustainable and environmentally-friendly sources, they won't leech chemicals that could pose a health risk.

The sewage treatment plant makes grey water suitable for watering gardens or flushing toilets. The staircase placed against the external wall of the buildings works as an emergency exit also in case of fire. Local granite is used for the washrooms, Pantries, staircase and other service areas flooring.

All Images Courtesy: **Authors**

Sahil Sachdeva has attained a degree in B. Arch. from the Indian Institute of Architects. With around 10 years of practical experience, he has handled various residential, commercial, and heritage conservation projects from planning to completion. Presently, he is employed as an architect at Design Build Consultants, New Delhi.
sahilsachdeva.arch@gmail.com

Abhijit Ray, F.IIA Architect and Proprietor of ABHIJIT RAY & ASSOCIATES, an Architectural and Design Consultancy Organisation, is an alumnus of IIT Kharagpur (1969). He was awarded a Dutch Government Fellowship and has a P.G. Diploma in Housing and Planning from the Institute of Human Settlement Studies, Rotterdam, Holland, 1973.
architectabhijit.ray@gmail.com

DIALOGUE WITH AR. GURJIT SINGH MATHAROO

Dr. Pratheek Sudhakaran

Born in Ajmer, Rajasthan, in 1966, Gurjit Singh Matharoo graduated in architecture from the Centre for Environmental Planning and Technology (CEPT), Ahmedabad, in 1989, and then worked for a year with Michele Arnaboldi and Giorgio Guschetti in Ticino, Switzerland. In 1992 he began teaching at CEPT and subsequently established his firm Matharoo Associates, in Ahmedabad.

Matharoo Associates offers integrated design work ranging from architecture, interior design, product design and structural design under a single roof. With a strength of 18-24 members, the studio's diverse scale and nature of projects have brought them esteemed International recognition. They were winners of the 2011 International Architecture Award by the Chicago Athenaeum, the 2010 Architectural Review Best House Award only Indian Architect to have this honour and the 2009 AR Emerging Architecture Award, to name a few. They have also been invited as participants in the 2016 and 2018 International Architecture Biennales in Venice.

In 2013, Gurjit Singh was conferred the title of Fellow of the Royal Institute of British Architects (FRIBA), becoming the third Indian to be inducted after architects B.V. Doshi and Charles Correa into this rare fellowship of 130 odd Architects world wide.
He has completed many distinguished projects, including the Prathama Blood Centre, Fountainhead School and Ashwinikumar Crematorium, among many others. His work has received widespread recognition for its innovative approach and commitment to sustainability. Philip Jodiddo has neatly chronicled the firm's projects into a book `Matharoo Associates Architectural Practice in India' published by Image Publishing and available on Amazon.

Here, we have the pleasure of speaking with Gurjit Singh Matharoo, the principal architect of Matharoo Associates. We discuss his journey as an architect, his design philosophy and his experience working in the Indian architecture industry.

Sangram Singh School, Gondal. Originally seated for demolition after the devastating 2001 earthquake, the studio instead intervened and retrofitted the largest heritage building in Gujarat. Budget - efficient and low cost.

Dr. Pratheek Sudhakaran [PS]: What initially drew you to the field of architecture, and what inspired you to pursue it as a career?

Ar. Gurjit Singh Matharoo [GSM]: Ar. Gurjit Singh Matharoo [GSM]: About a 100 years ago my great-grandfather worked for the British as a draughtsman designing colonial buildings of the time. I grew up seeing his drawings around the house. Another strong influence has been my early days in Jodhpur, where my father has posted as teacher and I saw large stones being chiselled and assembled into clean bold modern buildings. Only later did I realise that modernism wasn't the case in most other mofussil towns. So, I guess I have been fortunate with the exposure. After this came the chance admission to CEPT and today I owe all I am to this fantastic school founded by Prof. B.V.Doshi, who recently left us but will remain in our hearts forever.

PS: How would you describe your practice and body of work, and their evolution over the years, and reflect on your journey in architecture? What vocabulary of architecture are you drawn towards?

GSM: We like to call ourselves romantics - people governed by emotion over calculation and affected by beauty more than gain, There is an inner urge to create delight - unfolding around one's body as one moves through them, to be discovered; revealing their secrets and meanings; over time and over spatial layers; and elate one from a normal level of existence to a higher being, and turn routine everyday occurrences into eternal celebrations. My research thesis was based on a quality I identified as essential in great buildings titled Clarity: An Exploration into the Making of Buildings. Our architectural vocabulary is a result of this study. Looking for peculiarities in the brief and context, the creations are rendered into character in the direction not previously explored. There are of course non-negotiable such as a direct connection to nature, extreme Restraint in approach, a Turquoise, 'not just Green', take on sustainability, and Value Architecture by optimizing structure and enclosure that continues through the work.

My research thesis was based on a quality I identified as essential in buildings and was titled Clarity: An Exploration into the Making of Buildings. Our architectural vocabulary is a direct result of this. We look for peculiarities in the client's brief and context that could render our creation's individual characters in a direction, less explored. There are non-negotiables such as a connection to nature, restraint in approach, a turquoise, 'not green', take on sustainability, and value architecture by optimizing structure and enclosure, that continues through the work.

PS: Who are some of the architects who have influenced your work?

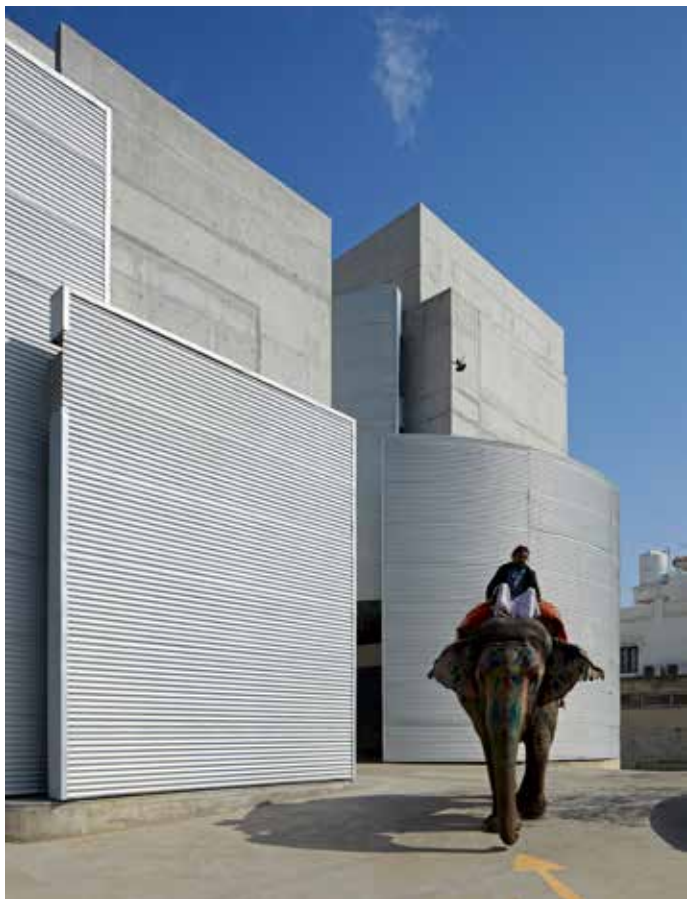
GSM: Master Architect Mies Van Der Rohe has been my greatest inspiration. My visit to his Pavilion in Barcelona, built in 1929 and rebuilt again in 1985, was a pilgrimage of sorts. Each of my four days in Barcelona, I would go and sit inside this overwhelming, exposed and endlessly enclosed pavilion. Every time the four walls, eight columns, flat roof and two waters combine, they create a continuum of ever-changing experiences. The polished stone reflects the glass, which is itself transparent, to look out at other stone walls or the water. One could die here and both the world and I would be at peace.

The man behind the most profound statements such as 'God is in the details' and 'Less is more' was also the only male invited to be a member of an All Women's Club in Chicago - we take a bow!

Also, I'm a product of a school that imbibes the basic tenets of Le Corbusier. Moreover, there are four projects built by him in Ahmedabad, a city in which we have grown up, so it is hard not to be inspired. The architecture at our studio is a fall-out of his principles, which I think are best suited to our culture and place: low cost, rough and labour-intensive, filled with both reason and emotion. His forms are not only protected but also come alive with the harsh tropical sun playing on them.

Man-made God, Ajmer. Square in plan, the temple gently morphs into a sinusoidal volume, signifying an open interpretation of religion.

Curtain Door: 40 Logs of wood tied with a string, opening in a sino soidal curve.



Open Door, Ahmedabad. A composition of openable corrugated Galvalum (steel) and fixed raw concrete planes.

Fountainhead school, Surat. The largest IB [International Baccalaureate] school in the state of Gujarat. Budget - efficient and low cost.

PS: Can you tell us about your approach to design with materials like stone, concrete and timber and why you find them to be such compelling materials for building in India?

GSM: Just after graduation, I went to work in Luigi Snozzis studio in Switzerland under his assistant, Michele Arnaboldi. Back in India, what hit me the most was the appalling construction quality. The initial reason for specifying exposed materials, especially concrete, was to make it impossible for the contractor to construct badly, as it would be evident on the face and rejected. India is blessed with inexpensive but durable stones, and one cannot but appreciate their natural beauty. Besides, we have built an entire seaside building in stainless steel, probably the first, if not the only one, in the country. We love wood but mindful of the depleting resource, so use it conservatively.

No material is taboo. The attempt is to keep materials in their natural state and to bring out their intrinsic qualities, inherent hues, subtle variations and characteristic textures with natural light playing on them.

Confederation Of Real Estate Developers Associations Of India, GIHED Headquarters, Ahmedabad. A staid office building with giant walls that literally open out to public during events.

PS: How would you describe some of your recent and ongoing projects? Could you tell us something about them, and maybe share what drives your design for today?

GSM: Currently under construction is a 35-acre township on a lakefront in Hyderabad meant for approximately 10,000 residents with small units ranging between 30 sq.m (1 BHK) up to 60 sq.m (3 BHK) RERA area. The challenge has been to maximise provisions and enhance the quality of life to a level not found in much larger and more premium real estate. Schemes units include a spacious living-dining and a bedroom space that terminates in a huge balcony overlooking either the lake or the garden. Besides, the clients have been generous enough to allow us to dedicate social spaces distributed at multiple levels, besides commercial spaces, clubs, gyms, etc. The scheme includes a 5-acre forested area, and a 6 km-long lakeside promenade.

Lakhpat Gurudwara Sahib is a UNESCO-protected monument in an otherwise abandoned ghost town at the centre of the white desert of Kutch. Funded by the state government, we have designed a heritage centre that includes a museum, accommodation and a large langar or community kitchen. Construction has made use of only local materials like the country tiles, the stone and the clay tiles: stone masonry, lime plaster juxtaposed with industrial PEB steel and puff insulated roofs. The sharply sloped roofs create a sombre enclosure around the small monument and handmade tiles on the roof shimmer in the hot sun, set against the vast horizon of salt flats and the white sea beyond.

PS: In addition to your work as a practicing architect, you are also a faculty member at CEPT and NID. How do you balance your academic responsibilities with your professional practice? What are your major takeaways as an academician? Could you elaborate on your experiences in education?

GSM: For 30 years, until the pandemic hit, I was a regular visiting faculty member at my alma mater, CEPT. Teaching became integral to my routine, and the best hours of the day were spent with students. Just like in our practice, I follow a hands-on approach with students, to be free of the theoretical burden in design explorations. The belief in bringing new ideas on-board stems from the fact that though it is hard at first, then enjoyable and satisfying. Design studios primarily centre on urban inserts with actual sites in heritage-rich towns. Keeping the context in focus while the making of buildings and creation of shared spaces become core issues.

Besides my involvement at CEPT, our studio has initiated the Pan-India Travel Studio (PIT Studio), a rigorous 3-week long workshop with design exercises in three diverse locations across the country, where participants travel to their mentor's chosen place of work to be a part of their context and philosophy.

PS: Can you share any advice for young architects who are just starting their careers?

GSM: Like the first serve in tennis, give each project your best shot- it might be accepted. Unlike other animals, human occupation in buildings destroys that part of our limited earth forever. Therefore, this inherently destructive process must be made as creative and sensible as possible.

PS: How do you see the field of architecture evolving in India in the coming years, and what role do you see yourself playing in this evolution?

GSM: The days of the grandmasters as undisputed leaders are declining, and there is beautiful work happening around the south and east parts of world; so, centres are finally shifting. Countries not labelled 'First World' are doing work that is sensitive to human occupation, emotionally charged and reacting to regional concerns. The massive upward trend in architecture is in terms of quality of design, experimentation with materials, complex forms, and unconventional approaches to standard problems. The world is slowly shedding its inhibitions with the best possible results.

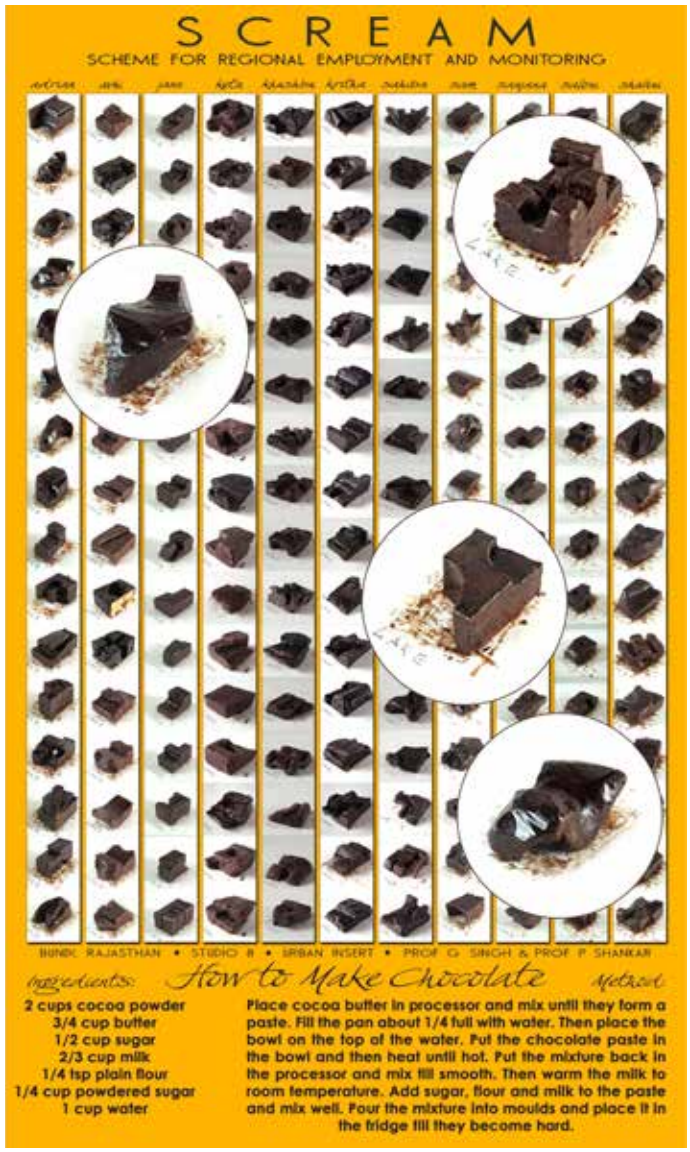
While seeking spaces that are primordial, we are experimenting with details developed in house that are cost-effective, and solutions that are sensitive to locally available materials and labour. The stronger the challenges of the economy, climate, and society, the stronger the reactions to them. Hence, bolder the designs.

PS: Can you talk about a couple of projects that you've worked on that you're especially proud of, and why it was such a rewarding experience for you?

GSM: Designing schools and hospitals have been a personally gratifying experience.

After the 2001 Gujarat earthquake, several schools in heavily damaged heritage buildings were slated for demolition. We were fortunate to be approached to design new structures, but we chose to retrofit and reuse these important buildings and strategically added new wings only in the remaining spaces available. Subtle, lasting changes were carried out

Sajuba Girls High School, Gondal. Largest girls school in Gujarat, Giving it its due respect, the original building is the nucleus around which new blocks circumvent Budget - efficient and low cost.



A studio exercise where design alternatives were cast in chocolate, where the chosen one was preserved and the rest gobbled up.

Up to the Sea, Surat. Taking cues from an abandoned step well found on site and sea views available from elevated levels, a composition of stairs connects these two waters.

Venice Biennale 2018. Matharoo Associates was invited by the curators, Grafton Architects, to display their idea of 'Freespace'.

Track Record, Ahmedabad. The Divisional Railway Manager's Office has a 100 m atrium wall that, on the outside, forms a backdrop to blocks of common activities.

at an extremely low cost and without altering the heritage context from both the outside and inside. To name a few, there is the Sangram Singh School (the former palace at Jamnagar), arguably the largest building to be retrofitted post-earthquake, the Sajuba Girls School (former Queen's Palace, Jamnagar), the largest girls school in the state and the Sainik School, Balachadi, the only military school in the state.

Another similar retrofit and reuse project was for the J.J. Hospital in Mumbai. While we were asked to design a new blood centre, we chose a dilapidated building on the campus and accommodated a blood centre within. It later turned out that the building was the one where Dr. Waldemar Haffkine had carried out research on the bubonic plague 200 years ago, making the blessed building a saviour of many lives, then and today as a blood centre.

Ahmedabad's 300-bed ESIC hospital, catering to the poorer sections of society, didn't call for plush amenities like those of the private hospitals. A therapeutic environment was created using extremely economical methods. One major decision was custom-designed louvres that shield the building from the harsh tropical sun and provide a soothing atmosphere. The louvres were fabricated at a fraction of the cost required for air-conditioning and the leftover funds reserved for the same central Air conditioning have instead facilitated a large 7500 sq.m garden that functions as a public green space in this land deprived industrial part of the city .

PS: What are some of the biggest challenges that you face as an architect in India, and how do you work to overcome these challenges?

GSM: Just saw a clip of Charles Correa whom I respect the most as an architect. He talks of how literature is not writing, and similarly, architecture is not construction, but somehow both are now being equated. Architects need to deposit Earnest Money Deposit to participate even in invited competitions. Financial turnover is the criteria for selection of Architect for public works, and one should have built an equivalent amount of 'constructions' in the last three years. Probably we, ourselves, are to blame for this downfall of the profession. We take failure as a norm and success as an exception. To circumvent this vicious cycle is most difficult. However, we try, mostly we lose, and sometimes we win. Most early projects were written off and have vanished, but we have come a long way from there. It has been an honour to be selected to display our ideas at the Venice Biennale by curators Alejandro Aravena in 2016 and Grafton Architects in 2018, both of whom went on to win the Pritzker in subsequent years. We take such achievements as a barometer of the unrelenting, friends call it Mat-haroo (Hindi for 'never lose') spirit of our endeavours.

On another note, stories of many of the challenges faced and how we circumvented them, have been funny, diverse and quite bizarre! We often shared these stories with our friends and peers. Finally, these have now been compiled into a book by 'yours truly and his friend, Vagish Naganur', titled 'Wit-ness to Mat-Haroo Spirit'.

PS: What are some of the closing statements that you would like to share with our readers?

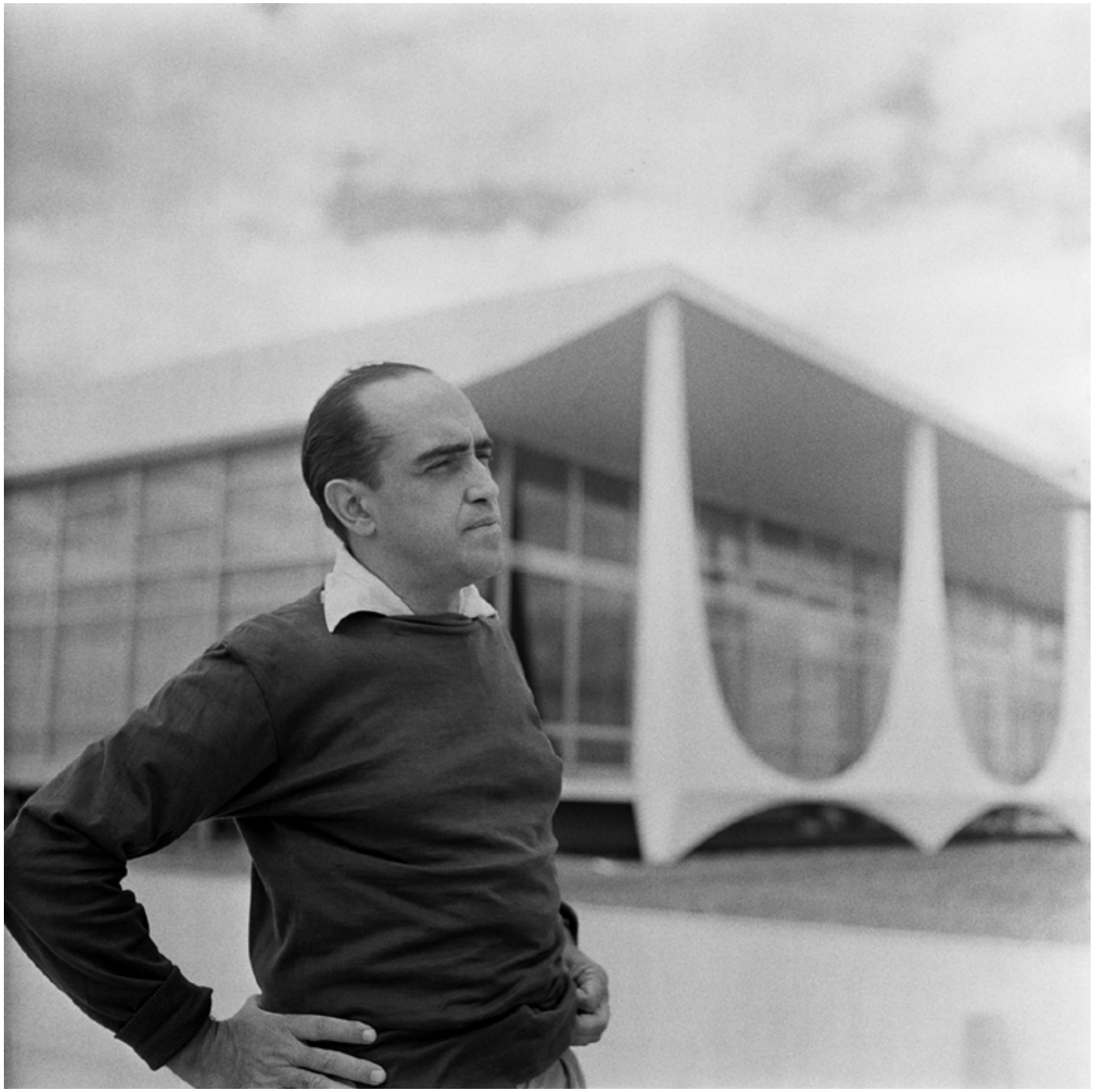
GSM: I am young, and I am not scared. Though struck by this jolt I am a survivor too. I have seen now how beautiful the world can be, devoid of the ills of modern life, but have known too what it means to be without work and resources. I'll work creatively and use resources conservatively, for the Earth may not repair itself again. I have been witness to humanity, and to its excesses too. First the homeless, for it's he who takes the brunt; no rulers for me, and in the equal I thrive. I'll not be gated or ghettoed and will not remain far. Albeit with sanity and rigour, I'll hit the bars and throng the streets soon. For I am and will continue to be, a citizen of this seamless world!

All images courtesy: **Matharoo Associates**

Dr. (Ar.) Pratheek Sudhakaran is an internationally recognized 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.
ar.pratheek@gmail.com

OSCAR NIEMEYER

Ar. Dipali Vadhavkar



Oscar Niemeyer
(December 15, 1907 - December 5, 2012)
(Source: Photo by Gil Pinhero from https://www.dwell.com/article/oscar-niemeyer-buildings-b6f66d59)

Oscar Niemeyer was one of the greatest architects in Brazil's history. He is also considered as one of the greats of the global Modernist movement. Niemeyer attended the National School of Fine Arts in Rio de Janeiro in 1929, graduating in 1934. He began working with the influential Brazilian architect and urban planner, Lúcio Costa . In his entire career spanning almost eight decades, he designed about 500 buildings scattered around the world. In an exclusive interview with *ArchDaily* before his death in 2012, Niemeyer described his process as 'always searching for beautiful, expressive, different and surprising solutions.'

To understand this personality better, I have included some of his thoughts about various topics that are recorded in his interviews. Oscar Niemeyer started designing in the Modernist language under the influence of Le Corbusier, but as he evolved, one sees the more romantic and whimsical nature reflected through the curves and shapes of the structures. Through his buildings he was trying to defy rules made by the western world and try to adapt it to his environment. He is known as one of the pioneers of the modernist movement but some of his opinions give us a better understanding of him as a person. In one of his interviews, he says, 'We hated Bauhaus. It was a bad time in architecture. They just didn't have any talent. All they had were rules. Even for knives and forks they created rules. Picasso would never have accepted rules. The house is like a machine? No! The mechanical is ugly. The rule is the worst thing. You just want to break it.' He was an idealist and believed in creating a better world.

He answers the question, 'What is architecture?' :
In my opinion, architecture is invention. And under this prism is how I do my projects, always searching for beautiful, expressive, different and surprising solutions." In his opinion, *"Whoever aspires to be an architect needs to look for an ample and critical formation, as a professional and as a citizen.'*

About his career, he states: *I had some good opportunities. I was lucky to have had the chance to do things differently. Architecture is about surprise.'* Oscar Niemeyer felt that one should never underestimate the importance of reading: *It's necessary to always read, especially about subjects not related to the profession.* He was a person who held strong political views, in his interviews he has strongly expressed those yet his buildings had a dreamy quality to them.

His quotes and opinions on various subjects given in his books and interviews give us a glimpse of his persona. Some of the quotes on various subjects are:

On Curves and Beauty
I was attracted by the curve- the liberated, sensual curve suggested by the possibilities of new technology yet so often recalled in venerable old baroque churches.

Camus says in The Stranger *that reason is the enemy of imagination. Sometimes you have to put reason aside and make something beautiful.*

My work is not about form follows function, but form follows beauty, *or even better,* form follows feminine.

My ambition has always been to reduce a building's support to a minimum. The more we diminish supporting structures, the more audacious and important the architecture is. That has been my life's work.

On Dreams and Fantasy
Humanity needs dreams to endure misery, even if just for an instant.

We need to feel that life is important; we need that fantasy so we can live a little better.

We have to have dreams, even if they never come true.

On Justice
The struggle for a more just society must not be lost in time.

Famous works
In his entire career he designed hundreds of buildings. Some of the most important ones are:

Cathedral of Brasília: The swooping columns of the Cathedral of Brasília form a coronal shape called a hyperboloid structure. The Roman Catholic cathedral, most of which is set underground, is surrounded by a reflecting pool, under which worshipers pass to enter the building. It was completed in 1970 and is complemented by a similarly shaped bell tower and bronze sculptures of the four Evangelists by Dante Croce (Fig. 1).

Fig. 1: Cathedral of Brasília
(Source: (Source: https://upload.wikimedia.org/wikipedia/commons/9/9b/Brasilia_Cathedral_2007.jpg)

Fig. 2: Museum Oscar Niemeyer
(Source: https://media.architecturaldigest.com/photos/56e05055a9eb65c66811ce3c/master/w_1600%2Cc_limit/oscar-niemeyer-09.jpg)

Museum Oscar Niemeyer: Known informally as Niemeyer's Eye, the Oscar Niemeyer Museum in Curitiba, Brazil, was completed in 2002 as the Novo Museo, then remodelled and reopened in 2003 as a place to honour the architect's work. The ocular structure is actually the museum's annex, while the main building for exhibitions is a long, low, linear structure (Fig. 2).

Brasilia: The completion of design and the capital complex of Brasilia is considered as his accomplishment as an urban planner. Few places in the world have an overlap of complexities as intense as Brasília. Even so, its architecture symbolizes the republic and democracy of Brazil.

National Congress of Brazil: Located in the middle of Brasília's Monumental Axis, the National Congress building is made up of a low structure topped by a dome on one side, where the Senate works, and an inverted dome on the other, where the Chamber of Deputies resides. The second structure is a pair of towers, visually in the middle of the two domes, that house governmental office space. The complex was completed in 1960 (Fig. 3).

Supreme Federal Court: Set on a 'floating' platform, Brazil's Supreme Federal Court features a wing-like colonnade surrounding the glass-encased judicial work space. Completed in 1958, the building forms one-third of Brasília's Three Powers Plaza, along with the National Congress building and the Presidential Palace (Fig. 4).

Itamaraty Palace: Housing Brazil's Ministry of Foreign Affairs Headquarters, the structure is also known as the Palace of the Arches. The rectangular building looks as if it is floating on the surface of the water basin from certain angles. A masterpiece of contemporary architecture, the concrete architecture takes on spans of 30 meters, a monumental spiral staircase (Fig. 5).

Fig. 3: National Congress of Brazil
(Source: Photo by Mario Roberto Duran Ortiz from: https://commons.wikimedia.org/w/index.php?curid=2476577)

Fig. 4: Supreme Federal Court
(Source: https://upload.wikimedia.org/wikipedia/commons/b/be/Supremo_Tribunal_Federal2.jpg)

Fig. 5: Itamaraty Palace
(Source: https://upload.wikimedia.org/wikipedia/commons/e/ee/Itamaraty_%2847946683752%29.jpg)

Fig. 6: Luis Carlos Prestes Memorial
(Source:https://s3-sa-east-1.amazonaws.com/img.guiadasartes.com.br/eve/448-memorial-coluna-prestes-/uQGVVtiY.300x300.jpg)

Luis Carlos Prestes Memorial: One of the last projects Niemeyer worked on before his death, the Luis Carlos Prestes Memorial in Porto Alegre, Brazil, was completed in 2013. The structure features Niemeyer's signature aesthetic in gleaming white, complemented by a winding red ramp (Fig. 6).

After looking at all his structures, one can summarise his style as demonstration of his eye for sculptural beauty. Dominantly built with the material of the hour, concrete; graceful curves, and primary-colour accents are signatures of Oscar Niemeyer.

Ar. Dipali Vadhavkar completed her B.Arch. (2000) and M.Arch. (General Architecture) in 2014, both from IES College of Architecture. She has a teaching experience of over a decade and professional experience of more than 20 years. She is currently an Associate Professor at Thakur School of Architecture & Planning. She has a practice as a freelance architect since 2005. She likes to travel and sketch.
dipalivadhavkar@gmail.com

REFERENCES

1. Allen, Eric (2016). *Take a spin through the undulating curves and stark white façades of the Brazilian modernist's expansive oeuvre.* Retrieved in January 2023 from: https://www.architecturaldigest.com/gallery/stunning-modern-architecture-oscar-niemeyer

2. Basulto, David (2012). *Quotes from Oscar Niemeyer (1907-2012).* Retrieved in January 2023 from: https://www.archdaily.com/303376/quotes-from-oscar-niemeyer-1907-2012.

3. The Hyatt Foundation (2023). *The Pritzker Architecture Prize.* Retrieved in February 2023 from: https://www.pritzkerprize.com/biography-oscar-niemeyer

4. Baratto, Romullo (2019). *Spotlight: Oscar Niemeyer.* Retrieved in February 2023 from: https://www.archdaily.com/577579/spotlight-oscar-niemeyer

5. The School of Life (2021). *The Greatest Forgotten Artist- Oscar Niemeyer.* Accessed in January 2023 from: https://www.youtube.com/watch?v=37zF36oq0jE

6. RIBA Architecture (2013). *Building the Century: Oscar Niemeyer.* Accessed in January 2023 from: https://www.youtube.com/watch?v=0krHxgYkzWM

7. David (2017). *Oscar Niemeyer [Biography].* Accessed in February 2023 from: https://www.youtube.com/watch?v=dnLd8zGqd2Y

STUDIO VIGITHAM

Co-Founders: Ar. Swetha, Ar. Praveen, Ar. Vishal & Ar. Gowtham

Bedroom with CSEB vault roof.

About the Firm:
Studio Vigitham is an 'Architecture + Design Research studio' founded by four young Architects. Having collaborated on diverse projects of varying scales for three years, we made the decision to formally establish our firm in 2021 based at Erode, Tamilnadu.

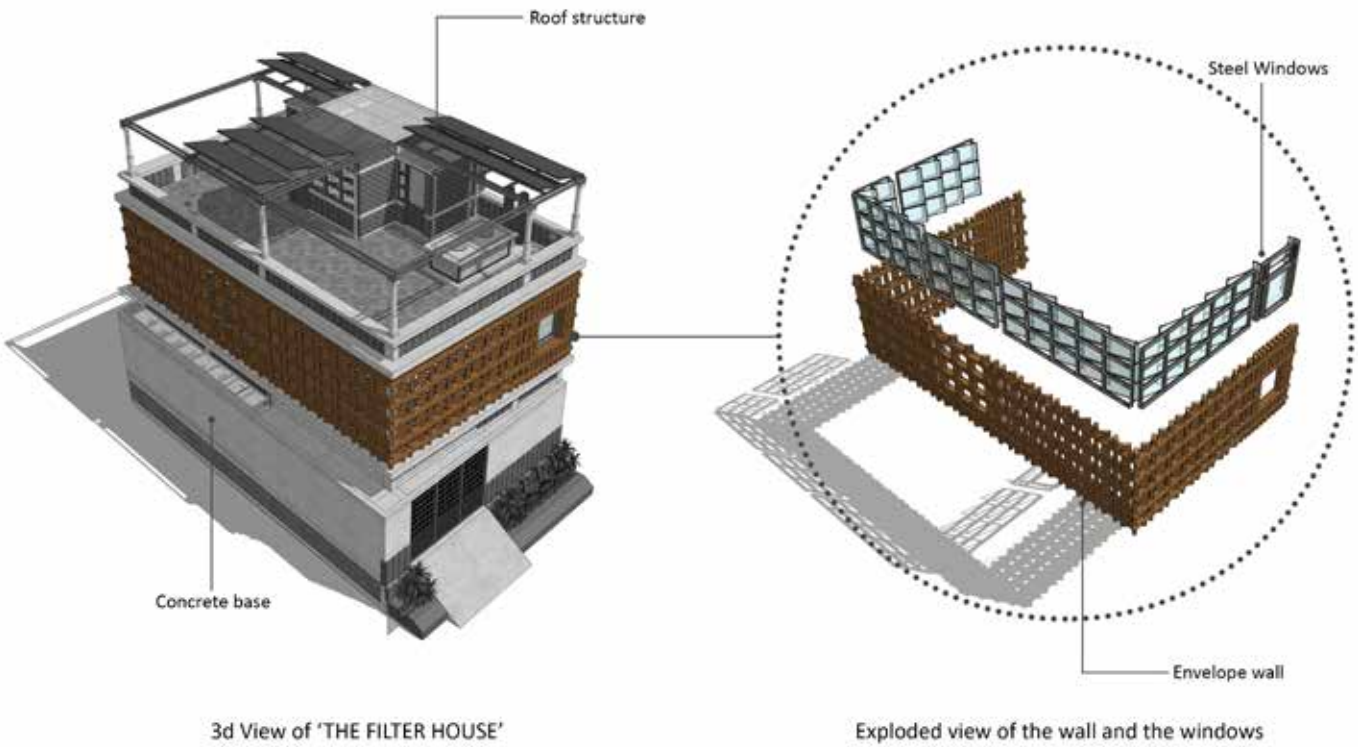
Our Philosophy:
The way we understand architecture is that it involves creating new lifestyles to experience while also focusing on the environmental impact, functionality, and practicality of individual spaces and structures. The primary objective of the space is to not only fulfill the functional requirements of its users, but also to prioritize nature as the central element of the building. We strive to minimize the square footage of built areas and educate users on what spaces are truly necessary for the design program. We acknowledge the economic and locational limitations of the project in achieving an efficiently built environment. Therefore, we take on the challenge of developing alternative solutions to effectively meet our design goals.

RAGAVA - The filter House, Pondicherry
The site is situated in a residential neighbourhood on the periphery of the urban sprawl near the Indira Gandhi Statue within the Union Territory of Pondicherry.

The site is oriented towards the west and is enclosed by residential buildings on three sides, with another building located directly across the road on the west side. The site's closed-off nature and lack of pleasing views presented a challenge in terms of providing ample air and the light flow inside while also ensuring privacy and a pleasant external view. This challenge in context served as the key inspiration and driving force behind the design and spatial planning process.

The design description from our client was to provide them with a home to retire into following their banking careers. The house should be able to provide them with a cosy living environment which disconnects them from the busy urban surroundings.

Taking the site conditions, design and spatial requirements of our clients into account, we proposed a design with a built-up of 2500 sq.ft with a material palette consisting of CSEB, Concrete, Steel, Stone, wood and lots of greens. Our design concept ensures that the views and functions of the spaces are faced inwards into itself by correspondingly evolving built forms to flow and fulfill the unique needs of each space.



3d View of 'THE FILTER HOUSE'

Exploded view of the wall and the windows

Illustrated view of the Filter House.

The building's massing is structured to feature a solid concrete base, with a perforated Compressed Stabilized Earth Block (CSEB) envelope positioned above it. This envelope provides a glimpse of the interior without revealing everything. Additionally, the roof features a CSEB base, with stone columns and steel frames outlining its edges to accommodate the garden below and solar panels above.

The compound walls are made of reinforced concrete (RCC) raised to the lintel level from the Concrete Base. This approach secures the setback space while simultaneously opening it up into the house to create an internal garden with skylight. By doing so, we were able to create a comfortable micro-climate within the built environment and imbue a sense of spaciousness at the ground floor level.

The CSEB Envelope on the first-floor level houses the bedrooms and the other private spaces of the house. We have utilized a variety of passive design techniques to make the enclosed spaces more comfortable and also created fenestrations that open up to each space in a corresponding way to interact with the elements of nature. Custom-made M.S windows were made to correspond with the fenestrations created by the CSEB Envelope to allow for a controlled and interactive environment for the clients to experience. It also ensures the connection of the house with the front street is retained. It not only acts as a façade but also as an interior element creating a pleasant view to be experienced from within throughout the design.

The Roof unwinds to accommodate all the utilities, services, storage and leisure spaces required by the program. Stone columns with M.S frames mounted on a CSEB parapet provide a defining boundary for the roof space. This framework also allows for Solar panels to be placed on it and for the growth of lush greenery under it, creating a relaxing and enjoyable roof garden space for the clients to enjoy during their retirement.

A Peak into our Palette:

With Our Materials & Techniques, we try to impart a unique spatial experience & functionality to our designs while keeping them sustainable and creating jobs for the local community, and setting them apart from conventional construction and design approaches. We incorporate various construction techniques such as Domes, vaulted roofs, jacked arch roofs, Arched Concrete Slabs, filer slabs, Rammed & Poured Earth walls, concrete & stabilized lime finishes, etc. into our designs. These proven and yet lost techniques have helped us greatly in our design process to create a meaningful and impactful structure to justify the occupant's needs.

The Envelope wall in the first floor bedroom space.

Our Mason precasting the brick beams to be used in the envelope wall.

Geodesic dome with CSEB bricks.

Stabilised lime finish to replace paint.

Concluding Statement:

It is crucial to consider the diverse nature and needs of both the structures and their occupants as built structures have become more accessible to a wider audience. We acknowledge that the site will host humans, plants, and various other small organisms, and it is paramount to prioritize the creation of a harmonious living space for all its inhabitants. As architects, we have a unique opportunity to incorporate sustainable and culturally relevant construction techniques into our projects, creating buildings that not only function well but also reflect the values and history of the surrounding community. Creating memorable experiences through architecture is also an important aspect of our works. By designing buildings and spaces that are functional, beautiful, and thought-provoking, we can help people connect with their environment on a deeper level and create a lasting impact.

All images courtesy: **Studio Vigitham**

Ar. Swetha Lakshmi graduated B.arch from KSA, Coimbatore. She started her architectural journey under Ar. Prathima Seethur of Wright Inspires, Bangalore. Now at Vigitham, she strongly believes in the relationship between a playful process and a reactive design. She enjoys designing in a casual and lighthearted manner, incorporating elements of playfulness into her works.
swetha.291295@gmail.com

Ar. Praveen Chandran started his professional journey with Fowler and Fowler Architects, Coimbatore. He places great importance on concepts and is meticulous when it comes to paying attention to details. He has a strong inclination towards architectural experimentation and enjoys innovating in the field. The use of natural materials is something that he enjoys incorporating into his work.
praveen.c6.bvb@gmail.com

Ar. Gowtham Asaithambi graduated B.arch from BMS School of Architecture, Bangalore. He started his professional career with GK Architects, Bangalore. He enjoys actively engaging with construction sites and working hands-on. He is passionate about both architecture and experimentation on field, with a particular focus on designing eco-friendly buildings.
ar.gwthmgowtham@gmail.com

Ar. Vishal Srinivasan has a deep passion for architecture and a solid understanding of contemporary design. He started his professional journey as a Junior Architect with Ar.Kamalahasan of Cuboid Architects, Coimbatore. He possesses significant knowledge in the area of conservation and is enthusiastic about working on conservation projects.
ar.vishal1727@gmail.com

BOOK REVIEW

IN PURSUANCE OF MEANINGS

SEN KAPADIA ARCHITECT

Author: **Sen Kapadia**
Reviewed by: **Prof. Durganand Balsavar**

IN PURSUANCE OF MEANINGS - This book is a reflective document of architect Sen Kapadia's nuanced practice that has absorbed diverse social, cultural, and historic imaginations in a rapidly transforming Indian context; of a post-colonial polity over the last five decades. Sen is one of the few architects I have been privileged to know, who has consciously engaged with deciphering encoded meanings and messages that architecture reveals in different cultural contexts around the world.

The book in a sense, resonates with Sen Kapadia's creative discovery, synergised with a rare sense of humour, lurking around uncertainty and open-ended discoveries. Divided into four parts, the text evokes fearless freedom, reflected in serigraphs of incredible axonometric drawings in stark colours. The experience of reading is complemented with fascinating illustrations, meticulous renderings, and evocative photographs that traverse the intersections of artistic representation and conceptual thinking. The

compilation is sensitively edited by Mumbai-based architect, Pinkish Shah, who has an immersive experience with Sen's genre. The edition is designed by Studio Anugraha and published by CEPT University Press.

Sen has selected eight projects, consciously aware of the possibilities of conveying a deeper intellectual richness. It invites a broader discourse on the relevance of architecture and its emergent, aesthetic sensibilities. Reflecting the open-ended uncertainties of the time, the projects generate a dynamic balance of spatial experiences, breaking away from the static-orthogonal structural orders of early Indian Modern architecture.

Projects like the Kotban Rural Health Centre invoke re-imaginations of the program, as humane experiences of "care." The Asian Trade Fair re-discovers "infrastructure" as a series of choices and takes on meanings beyond the functional, to present itself as a skeletal-substructure that empowers through its very flexibility. The design process was imbued with conceptual imaginations, and an innate ability to delve into larger possibilities, rather than be limited to conventional paradigms.

Evocations of Indian miniature paintings inform Sen's design for the Kushinagar Buddhist Centre, with a broader recognition of the larger context. Over the years, Sen's projects have traversed a zone between seeking meanings and experiences through formal expressions of juxtaposed planes, that bring in light. Sen deeply believes that this displacement of spatial construct, relative to cardinal dispositions, is a generator of dynamic gathering and creative learning, constantly questioning the status quo.

Early influences of residing at the Golconda Ashram in Pondicherry, influenced by the teachings of Sri Aurobindo synergised with Louis Kahn's philosophy, have permeated Sen's projects subconsciously. With an emphasis on discovering meanings residing in elements of the disciplines of geometry, structure, light, materiality, natural ventilation, climate, history and context.

The formative years, with cycling forays through the alleys of Bombay (in contrast to the security of a large joint family), provided young Sen insights into the tenuous balance between family and the wilderness of Mumbai's urbanity. Imbibing this spirit, Kapadia's passion for music, film, art, and architectural pedagogies, infuses a dynamic synergy to his practice and teaching, seeking new ways to investigate antecedents and preconceptions.

The conversation between Sen Kapadia, B.V. Doshi and artist Atul Dodiya is an inspirational reading that delves into a diverse range of themes, evocative of a mind-space for discourse, that is both simultaneously immersive and detached. In the early 1960s Sen worked in the Studio of Louis Kahn in Philadelphia and returned to IIM-Ahmedabad, guided by B.V.Doshi till 1969. Sen Kapadia was the Founder-Director of Kamla Raheja Vidyanidhi Institute for Architecture & Environmental Studies-Mumbai in 1992, one of the most respected schools of Architecture in the country today.

Returning from New York in 1980, he set up his practice; writing, teaching, and winning several architectural competitions. Prof. Kenneth Frampton describes Sen Kapadia's oeuvre as "a fresh modus into Indian Architecture, as abstract as it is ecological. Kapadia lies close to Barragan and Legorreta is the way many Asian architects have gone beyond aporia of "post coloniality" to create a subtly differentiated, transglobal architecture that is equal to the best being produced anywhere." As Kapadia suggests, the projects have emerged as an intrinsic part of the larger cultural milieu and a constant creative search in the pursuance of meanings.

"IN PURSUANCE OF MEANINGS - SEN KAPADIA ARCHITECT" - is more than a book as it provokes an invitation to reassess and revisit Sen Kapadia's oeuvre and projects, in the context of the twenty-first century with a wider perspective. To architects, students and scholars, the monograph inaugurates a larger archive, that requires a more extensive reading of Sen Kapadia's imaginations and contribution to architecture: projects, writings, and rare drawing representations, that convey diverse possibilities of spatial imaginations and meanings, with an open-ended spirit of cultural and ecological reflections.

Review by Durganand Balsavar – artes.ROOTS Collaborative - 14th February 2023

Link to the Instagram page for informative updates on the book: @book_by_sen_kapadia

All images courtesy: **S+PS Architects**

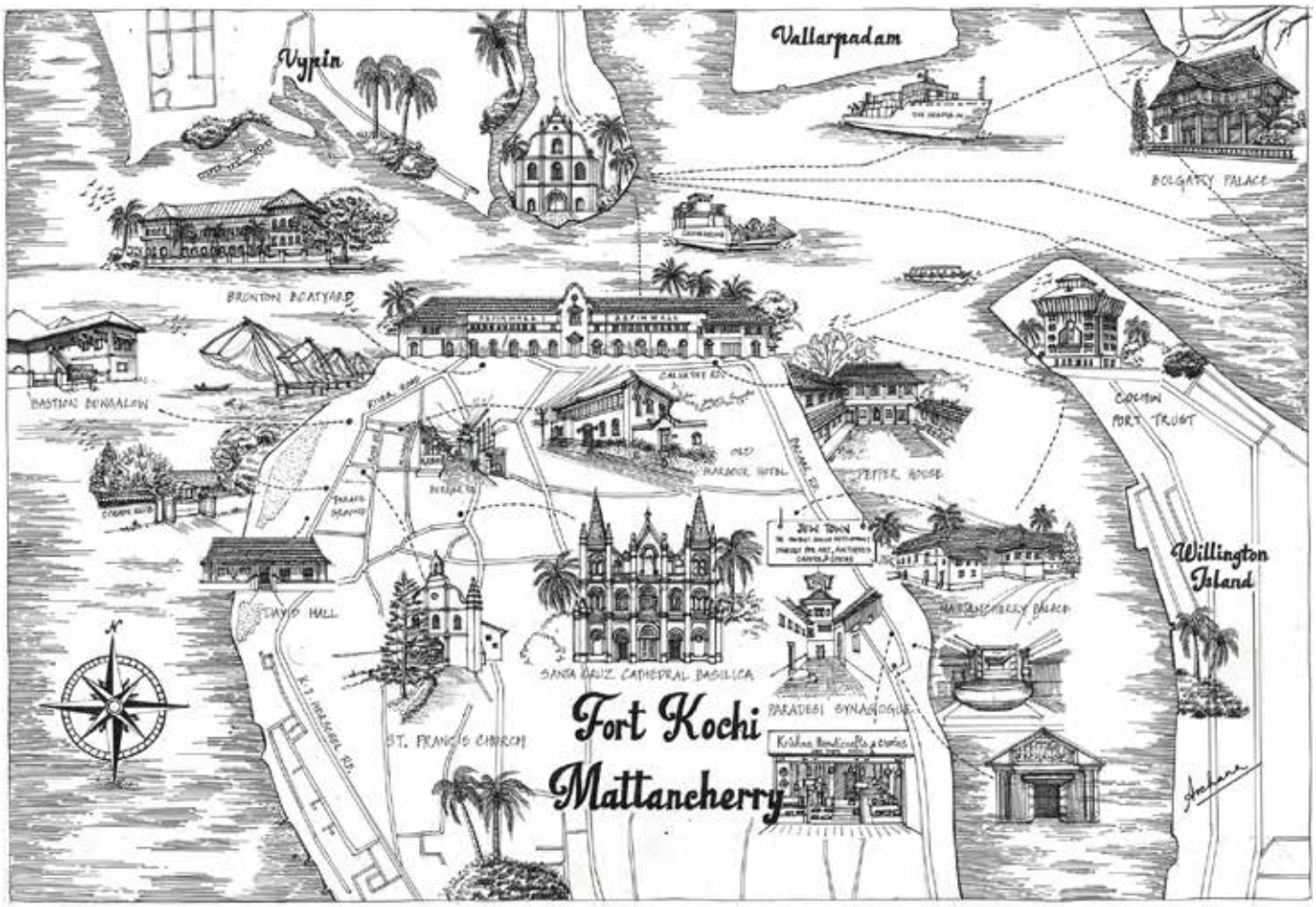
Author
Sen Kapadia, FIIA, has worked with Louis Kahn in Philadelphia and IIM Ahmedabad. His 40+ years of practice has won several awards and competitions. He was the Founder and Director of KRVIA, Mumbai in 1992. Incorporating passive solar architecture, and building timeless spaces with a focus on 'Place-Making', his philosophy is captured in numerous articles and books he has authored and been featured in, as well as his public lectures.
senkapadiabook@gmail.com

Reviewer
Prof. Durganand Balsavar graduated from SA-CEPT Ahmedabad-ETH Zurich and has been faculty at CEPT. Balsavar founded Artes-ROOTS Collaborative, involved in climate-appropriate architecture and community participatory affordable housing. He is an invited member at AMB-Barcelona-UN post Habitat III, Berlin Climate Policy 2050, Chair of Future Cities Summit Cambridge Univ-UK (VIT) 2018 and curated CoASocial: READS-Council of Architecture, India.
rootsdialogue2022@gmail.com

A JOURNEY WITH PEN AND INK

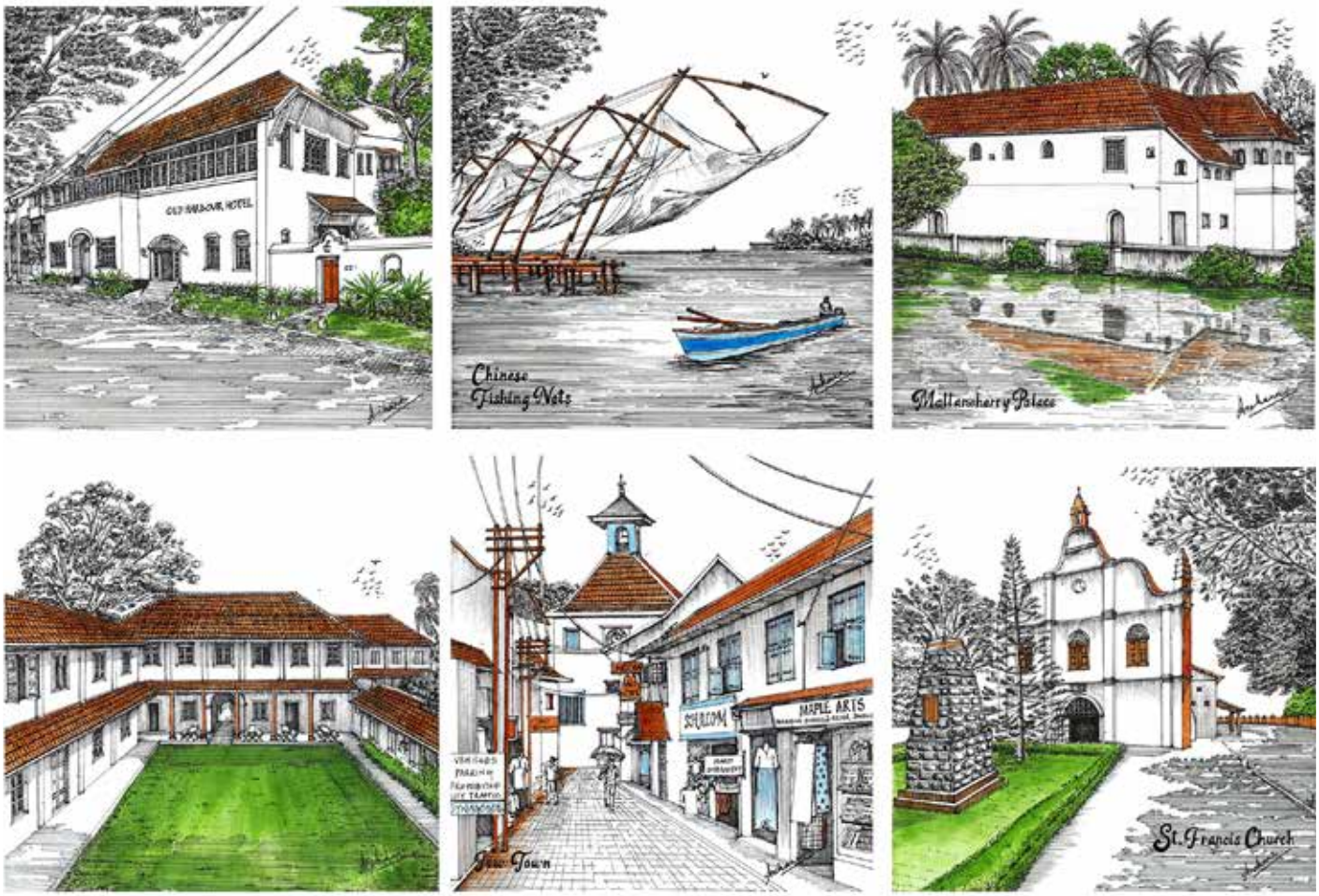
Archana Pereira

Fort Kochi map
A wanderer's map taking you on a trail around the heritage towns of Fort Kochi and Mattancherry. Exploring quirky cafes, heritage structures and streets, beautiful bungalows and the ancient Chinese fishing nets.

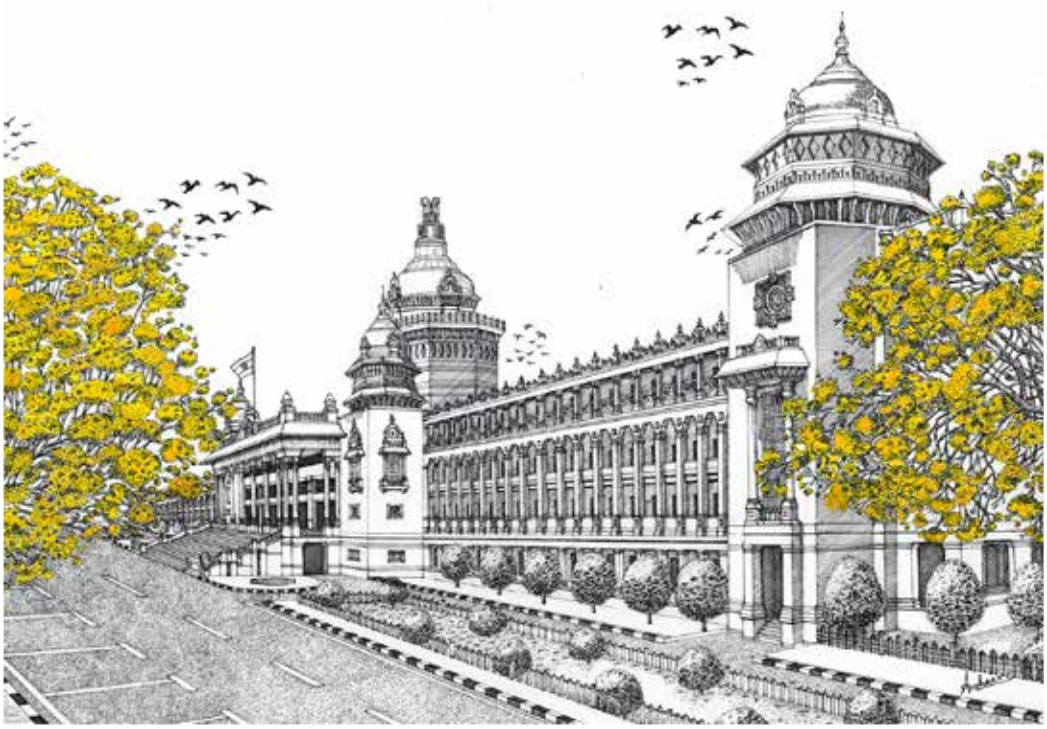


Fort Kochi map

Fort Kochi and Mattancherry
This is a series of artworks paying a tribute to the heritage towns of Fort Kochi and Mattancherry, taking you on a journey from the Chinese Fishing nets to the most photographed heritage property of Old Harbour Hotel, culturally rich Jew Town and the very rustic Pepper House with its brown and green hues.



Fort Kochi and Mattancherry



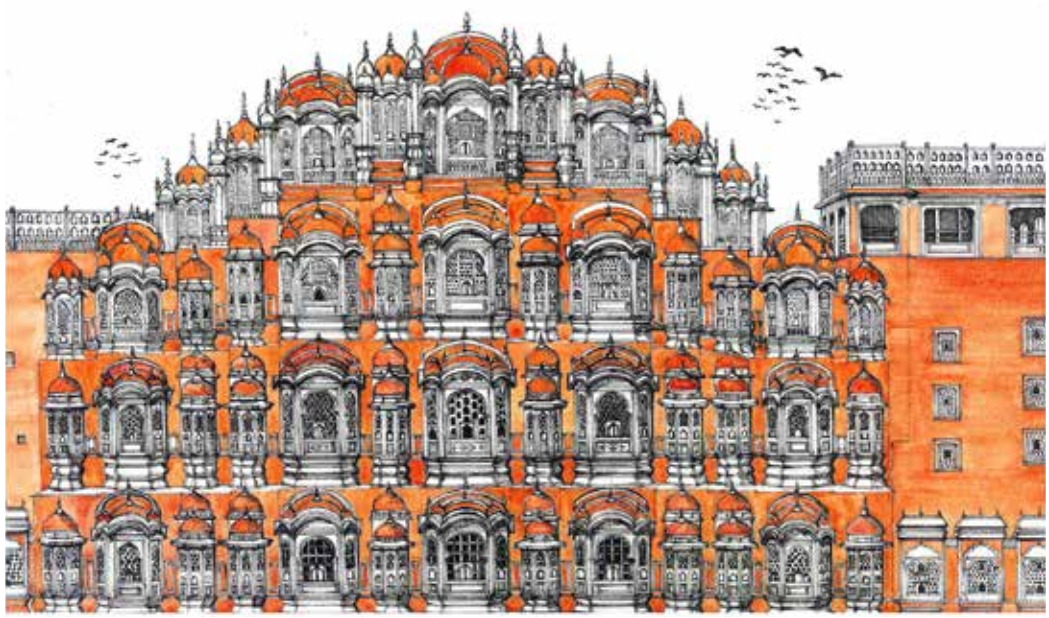
Bangalore blooms

Bangalore Blooms
This is a part of a series celebrating the landmarks of Bangalore and the beautiful colours of the Bangalore Blooms.

Kala Ghoda
A series of sketches exploring the heritage town of Kala Ghoda in Mumbai, where every building has a story to tell, heritage and history in every turn, boutique stores and art galleries coexisting with tiny tea shops and shanties.

Kalaghoda

Jharokhas of Hawa Mahal
Hawa Mahal or the Palace of Winds, one of the most striking landmarks of Jaipur, is a beautiful honeycomb-shaped structure built in 1799 as an extension of the City Palace. Made of 953 windows or Jharokhas, it was designed in such a way that the Rajput royal ladies could enjoy the everyday street scenes and processions from within the palace without being seen by the public. The intricate lattice work allows for cool breeze to flow in through the palace, keeping it cool during summers. Interestingly, the five storey structure has no foundation and is believed to be the world's tallest structure without a foundation!

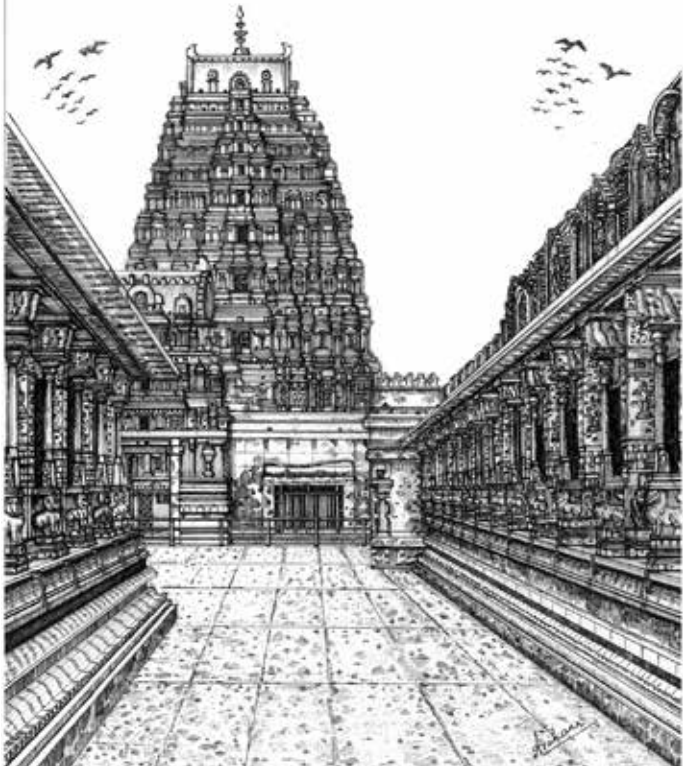


Jharokha

Hampi - City of Victory and Vittala Complex
Hampi, the site of one of the greatest kingdoms of India, the Vijayanagara Empire, is located near the Tungabhadra River in Central Karnataka.

The Persian traveller, Abdur Razzaq, who visited the capital city in the 15th century, described the city in the following words:

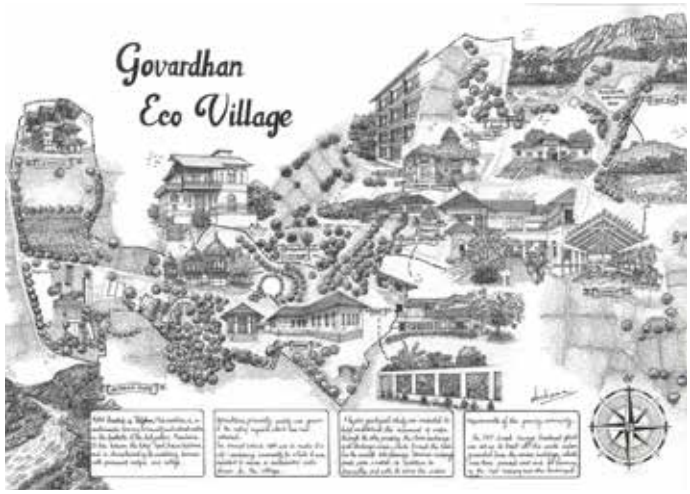
" The city of Vijayanagara is such that the pupil of the eye has never seen a place like it, and the ear of intelligence has never been informed that there existed anything to equal it in the world."



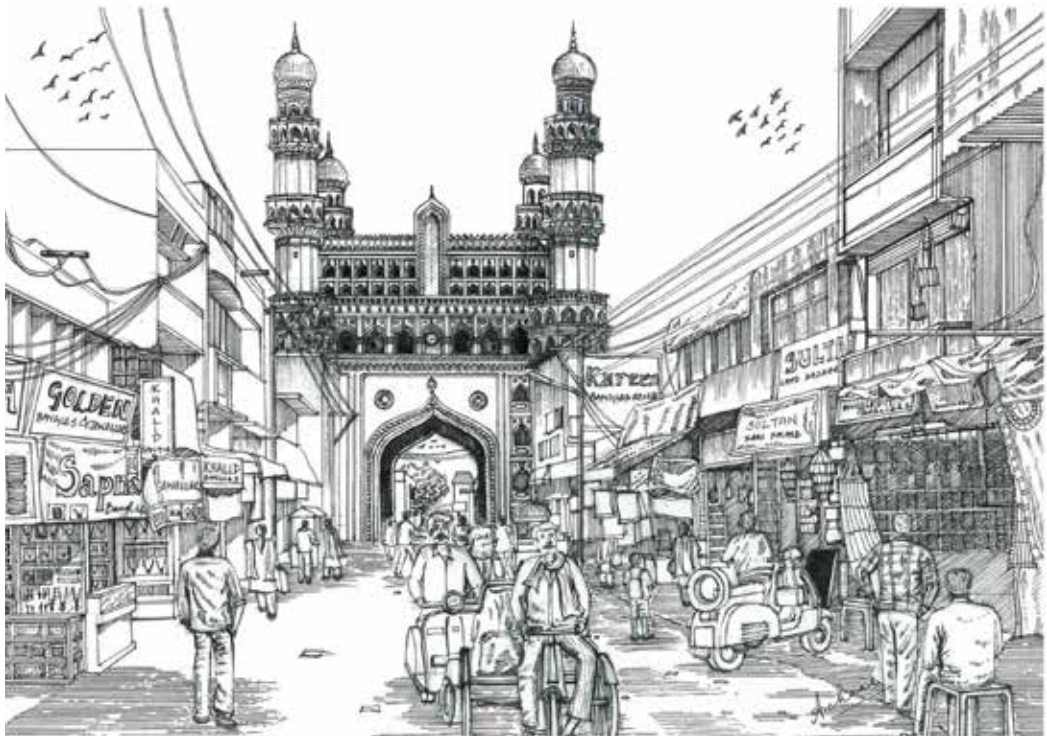
City of Victory

Govardhan Eco Village
An illustrated map of the Govardhan Eco Village, a sustainable farming community and retreat center in Maharashtra,designed by Biome Environmental Solutions.A self sustaining community designed to understand the movement of water through the site, which formed the basis of the overall planning.

Also home to one of the largest SBT based sewage treatment plants in India, which was setup to treat all the wastewater generated within the community to be processed and used for farming and for watering other landscaped areas.



Govardhan Eco Village



Hyderabad

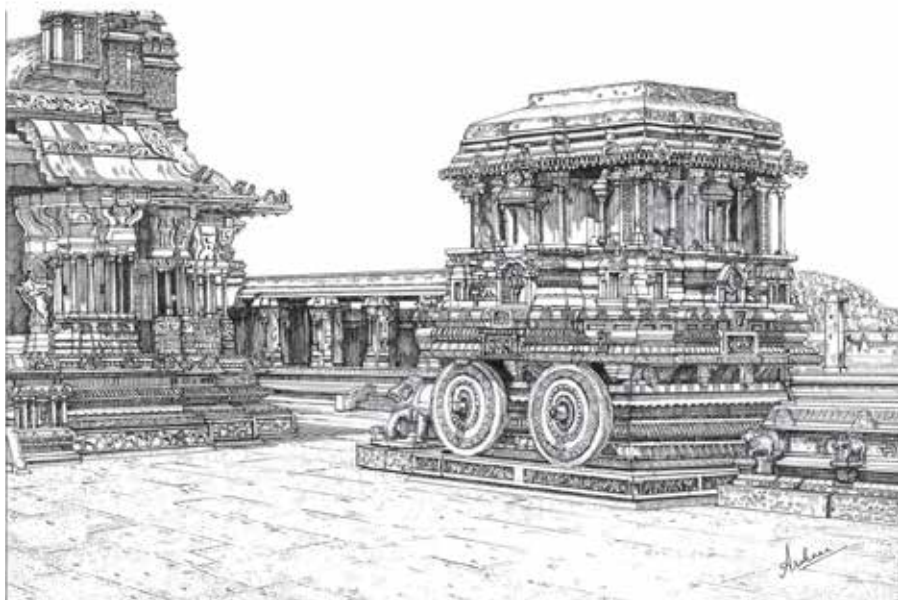
Streets of Hyderabad
This was part of a customised series based on Hyderabad. Laad Bazaar or Choodi Bazaar is a very old market located in Hyderabad, since the time of the Qutb Shahis and the Nizams. It is located on one of the four main roads that branch out from the historic Charminar.

Fontainhas, Goa

Goa's Latin Quarter located in Panjim, speaks of an era gone by. Characterised by narrow winding lanes, colourful bougainvillaeas, brightly coloured Portuguese houses in azure blue, mustard yellow, maroon, with tiled roofs, rich wooden doors and beautiful balconies.

Tucked away in these narrow lanes are art galleries, small inns, cafes, a wishing well, a quaint old bakery and the Chapel of St. Sebastian.

Goa



Vittala Complex

I'm **Archana Pereira,** an architect by qualification and an artist by passion. I specialise in pen and ink artworks; inspired by travel and architectural marvels, I remain enchanted by history. I completed my Masters in Architecture from the Glasgow School of Art, with Drawing and Research as an elective. I founded Ink Trails, an art company, in 2016.
info@archanapereira.com

MY TRAVEL EXPERIENCE OF BISHNUPUR TEMPLES

Prof. (Dr.) Aradhana Jindal

"The world is a book and those who do not travel read only one page."
- St. Augustine

Travelling is the window for an architect to venture into the realm of natural and built environments. Through his five senses, an architect perceives architecture & critically explores various facets of the design. The more one travels, the deeper the understanding of the design & spaces gets ingrained in the subconscious mind.

The educational tours provide an opportunity for an architecture student to explore the intricacies of design, space & its juxtaposition. My own understanding of architecture started growing through such explorations during my college days. A building which was nothing more than a mere piece of structure, gradually started to reveal its beauty and space. The need for such travels was realized to refine my understanding of architecture in the true sense. In the ensuing years, I undertook countless travels in India & abroad to not only admire some of the ancient as well as contemporary architectural marvels but also to imbibe their essence. One such lasting impression was made in 2015 during my visit to Kolkata and its surrounding places. This particular trip opened up my eyes to an architectural marvel, the memories of which are deeply etched in my mind forever.

When I started my journey from my hometown to Kolkata, one of my friends had suggested not to miss the one-day trip to Bishnupur, famous for its Terracotta temples. So, I included this place in my tour schedule and enquired a little bit about the temples from him before departure. The first rendezvous of the sleepy town was the shabby railway station. The place looked quite deserted and made me wonder whether I had landed at the right place. Moving on, I took a taxi and set out on my memorable journey of visiting the ancient terracotta temples.

There are a total of 20 temples dedicated to Lord Krishna in the town built by Malla kings who ruled a part of West Bengal between Burdwan and Purulia from the 10th to 17th century. Within a few minutes, I was in front of one of the temples! Wah! What a sight! I rubbed my eyes twice to look at the terracotta temple in front of me. It was incredible! I was reading a beautiful piece of poetry. It had all its rhythmic composition and beauty! With a well-proportioned intricately woven terracotta brick façade, the *Rasmancha* temple was looking like a museum collector's piece. It was a giant sculpture in Terracotta colour standing majestic all alone. Once I became sure that I indeed was standing in front of a real building, I filled up my eyes with the captivating beauty of the temple.

The temple built in the 16th century stands on a high podium built of laterite stone. Standing far away at one of the corners of the temple, I appreciated the rhythmic cusped arches of the ornate terracotta brick façade. I was informed that the carving on the temple façade is comparatively less than the other temples. The bas relief work on terracotta tiles in between the cusped arches had faded at places over the period of time.

Front view of the Rasmancha temple. *(Source: Author)*

I could make out the architectural vocabulary of the temple as a mix of Bengal (prevalent at that time) & Islamic architecture. The pyramidal roof of the temple reminded me of the ziggurat of Mesopotamian architecture. The entire structure rested on the massive pallet drum *(damroo)* shaped columns. When I counted the total number of columns, the figure came out to be 108, the spiritual number! It was incredible!

Play of light and shadow inside the gallery. *(Source: Author)*

The truncated pyramidal roof of *Garbhgriha* and the turret roof (Bangla *Do-chara* roof) over the galleries appeared in total contrast with the cusped arches of the facade. As I entered the temple after climbing up the steps, suddenly I felt a gush of cool breeze. The building structure which provided a magnanimous view had suddenly shrunk to the human scale. The play of light and shadow inside the galleries was really dramatic. I took a complete round of circumambulatory galleries and peeped inside the sanctum sanctorum but could not find any idol there. Walking on the laterite floor through a pointed arched walkway took my imaginative mind to that era when the galleries must be abuzz with *rasleela* throughout the day. It was an awesome feeling! The guide told that the galleries were used for the *Ras* festival till 1932 and during the festival, the Radha Krishna idols from nearby shrines were taken to this temple and kept on display for the public darshan.

From there I continued to visit other temples as well. Still, I could not remain without appreciating the sculptural façades of other temples and wondered whether we, the contemporary architects could create such an exquisite architectural marvel!

Prof. (Dr.) Aradhana Jindal is currently the principal architect in her own firm, A J Architects, in Ambala. She has done her graduation in architecture from the University of Roorkee, Roorkee, in 1989, and has her PhD from DCRUST, Murthal, Sonipat. She has 19 years of professional experience and 15 years of academic experience. She headed the MM School of Architecture, MMU, Ambala, for 10½ years. She was awarded a "Merit Certificate in Architectural Journalism" by the A3 Foundation, Chandigarh, in 2015. She has also been awarded the First Friday Forum Award for creative excellence in recognition of her valuable services to architectural education and was felicitated by the Times of India Group and the IIA Punjab and Haryana Chapters for her valuable contribution to 'Architectural Education'. Her research papers are published in many national and international journals.
anu0913@gmail.com

WAYS TO BOOST YOUR CREATIVITY

Pradnya Chauhan

Teaching first-year students in architecture college in the first semester is very exciting. The students are full of energy, surprise and curiosity in their eyes and minds. They are ready to absorb new ideas, information and methods. One of the most engaging activities is brainstorming sessions and the critical thinking methods taught in the first year. When they enter architecture college, almost all of them have done their higher secondary education in the science stream. The Indian education system at the 12th level is quite competitive for students. Most of them attend tuition classes, and life is stressful for them till the end of exams. And then there is a huge break for almost three months of vacations, a lull period of waiting for the results mostly spent binge-watching series or playing video games. But what is lacking is physical and mental stimulation Therefore, when they enter college-level education, we introduce brainstorming sessions and various methods for intellectual skill development. School education is designed towards rote learning and getting the correct answers and does not necessarily encourage creative thought. The students are trained in vertical thinking, which can be quite restricting in terms of creativity. Knowing this background, we wanted to introduce lateral thinking and critical thinking methods along with visual skills like drawing, sketching and model making. There are more than 300 different methods for developing thinking skills. One can introduce a couple of them in the classrooms.

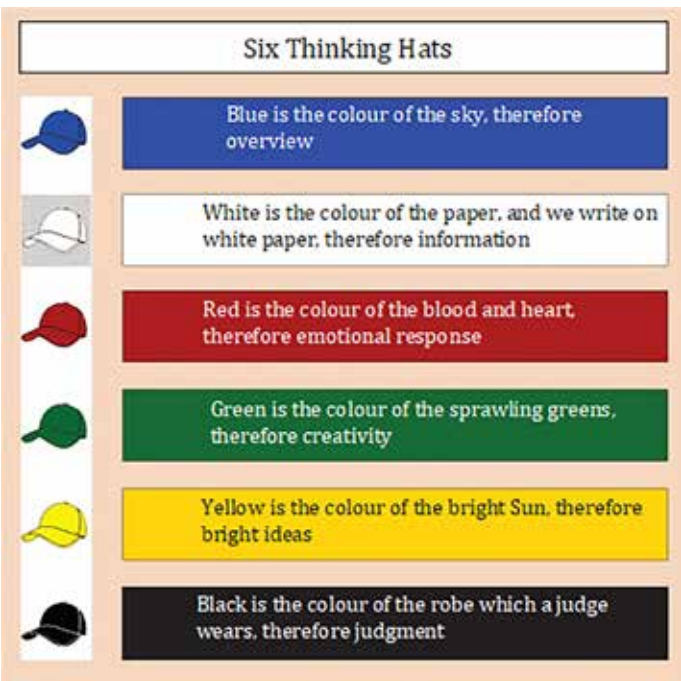


Fig 1: Six Thinking Hats
(Source: Diagram based on Edward De Bono's books)

Fig 2: Mind Mapping *(Source: Diagram drawn by Sharmeen Syed, student of Rizvi College of Architecture)*

Activities:

Setup: Go to your classroom with a deck of playing cards, and ask the students to pick up one card each and then group four students together holding kings or queens based on the card they pick. This is a playful random way of grouping them together to brainstorm.

Lateral thinking

Exercise 1: Six Thinking Hats: One of the most prominent proponents of thinking skills was Edward De Bono. He originated the term lateral thinking, wrote many books on thinking including Six Thinking Hats, and was a proponent of the teaching of thinking as a subject in schools. One could introduce this method of thinking, and instead of hats, one could use colourful bands.

Selection criteria: the topics could be physical things from our daily life.

Themes: Bicycles, mixers, microwaves, mobile phone games etc.

This simple methodology of looking at situations from six different perspectives will be an important tool to choose appropriate construction methods for the projects starting from second year architectural projects till their final year thesis projects.

Exercise 2: Mind Mapping: Tony Buzan is the inventor of Mind Maps. This method of thinking is very useful for the students for their next years and for their research projects. One can use Mind Mapping methods to discuss and debate social issues like child labour, discrimination against women, illiteracy rates in our country, caste discrimination etc.
Selection criteria: This exercise requires the subjects to deal with complex issues, which would have multiple options and priorities.
Themes: How to equalize wages for women, to organise a study tour in college, how to increase literacy among pavement dwellers, how to incorporate healthy eating habits etc.

Mind mapping as a tool is very helpful for analysing various functional requirements given in design briefs for students in architecture.
Exercise 3: How to boost reading habits: One can select a book for reading from a wide variety of topics for reading in groups and divide this book into various chapters, divide the class in the groups of eight or nine students, and ask them to read one chapter each from the book. After reading the book they could make an illustrated story book version of the book.
Selection criteria: The selected books need to be from the category of nonfiction and the topics could be broad based and inspiring.
Themes: Three cups of Tea, I am Malala, Understanding Gender, An Edible History of Humanity, The Boy Who Harnessed the Wind.
Having developed the habit of reading these simple books, in the first year of architecture, the students can forge ahead in their senior year by reading serious theoretical texts and visualizing the concepts in the books.

Fig 3: How to boost reading habits *(Source: Board game designed by first year students of Rizvi College of Architecture)*

Bus driver	Positive	Negative
Internal	**Strengths:** My father is a bus driver. He is very alert and he is punctual.	**Weakness:** He has to attend to the duty in shifts, which is strenuous.
External	**Opportunities:** In spite of his only matriculation, he could get this job, and because of this income he could educate both the girls.	**Threats:** The sword of an accident is always hanging on our heads. Plus, the pollution is hazardous to his health.

Fig 4: SWOT analysis *(Source: Author)*

Exercise 4: How to increase interest by creating Board Games: One can give the assignment of designing a Board game, they can make the board, write the cards, make the coins, dice and play this game in the class. One can really enjoy playing these games and make interesting observations
Design brief: The game must involve a strategy to play and also depend on chance.
Themes: Ladders and slides, Ludo games and Card games

Exercise 5: SWOT analysis: It is important to note that SWOT analysis is not just a listing of Strengths, Weaknesses, Opportunities, and Threats. This is a matrix of internal and external forces and one needs to recognize this fact. One can choose the lives of people we interact with almost every day. The idea is to draw attention to these lives and talk about their opportunities, aspirations, risks and threats. The students can create the analysis using SWOT analysis methods and these can be displayed on the soft boards the issues can be debated, and points can be added. With such activities the general atmosphere in the classroom would be filled with healthy arguments, and intellectual stimulation.

Selection Criteria: One can take up case studies of workers from various industries, like hospitality and transportation.
Themes: Domestic help, Waiters from Udupi restaurants, or Workers on the tea stalls, or City bus drivers, or Railway ticket collectors etc.
Learning SWOT analysis will be very useful for students of architecture for site analysis for their projects.

Exercise 6: Select a thing from your surroundings and change the scale or function: This should be either a group or an individual project, depending upon the size of the class and the number of mentors. This project could involve drawing and sketching followed by discussions. Select an object and change the scale. This activity will involve drawing and sketching, group discussions, animation,

adding movements and creating a storyboard. This will be a group activity and in the end, the students can display their work and discussion can follow.
Selection criteria: Majorly these will be things from our surroundings.
Themes: Pencil, Pen, Duster, Chair, Window, Steps, Tree, Tiffin box, Shoes, Necklace, Lampshade, Light switch, Stapler, Hammer, Car, Mobile phone, Internet.

Exercise 7: Plus, Minus Interesting (PMI) strategy is a creative lateral thinking tool developed by Edward de Bono. The idea is to reframe the issues and look at them, from minimum of three different angles. Most of the time, we have our built-in biases to look at situations, many rituals and beliefs are etched in our minds and we need to challenge the stereotypical opinions.
Selection criteria: The criteria for selection for this exercise should not be very obvious, since the issues are not exactly black and white, there should be a possibility to look at the topics differently.
Theme to select from Medicines, invasions, Education, Plastic use, Global warming.

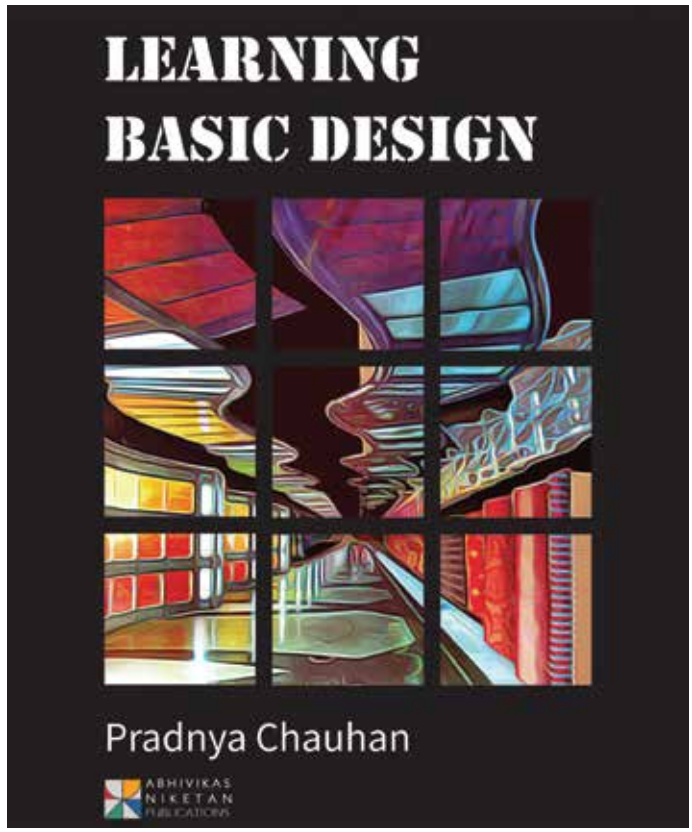
Exercise 8: Writing Prompts: Students will stimulate their creativity in terms of imagination, while enhancing their writing skills, and will give them various ways to look at situations. One can give them clues for storylines, or give them the end or one can give them the first line of the story.

Selection criteria: These should be full of surprises, unpredictable situations, and mystery.
Themes: Outside the Window: What do you see outside your window? If that's not inspiring, where will you rather be? Eye Contact: Write about two people seeing each other for the first time. Great Minds: Write about someone you admire and who you think has a beautiful mind.
Exercise 9: Random word connections: Random word connection is one more way of stimulating the brain and making connections with ideas. Pick up a word, write it on the board, and choose any random word from the dictionary. Ask the students to connect this new word with the word first selected.

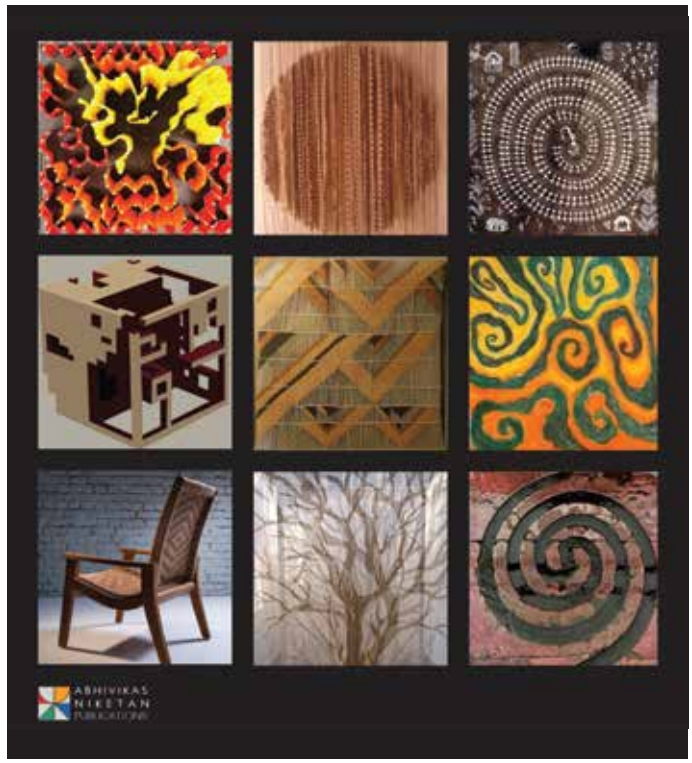
Selection criteria: The words that you select should be nonphysical, and could be esoteric or philosophical.
Themes: Hunger, Humanity, Energy, Dream, Global warming, Migrant Labour during the pandemic, etc.
All the sessions mentioned above are part of the stimulation and motivation for the students' thinking skills. Very frankly, these exercises should not be given marks, only remarks. The acceptable remarks could be, yes, this works, or maybe you need to develop this further. I mean a proliferation of more ideas and generating diverse solutions is more important than whether the answer is correct or not. There is nothing right or wrong in these sessions, there is not one single approach in the right direction, it is a jungle gym, there are so many ways to explore the issues and churn out ideas. The approach of the faculty members should be more encouraging than judgmental.

Source: CW Creative thinking exercises

Pradnya Chauhan has recently published her book "Learning Basic Design" and all these ideas are detailed in this book.



Learning Basic Design Front Page *(Source: Author)*



Learning Basic Design Back Page *(Source: Author)*

Pradnya Chauhan is an architect. She has been in joint practice with her husband for architectural and interior design projects. For the last 28 years, she has been teaching at Rizvi College of Architecture. On behalf of the Council of Architecture, she has conducted workshops all over India on a basic design. She is also involved with designing and knotting Macramé wall hangings and necklaces. Recently, she published her book, Learning Basic Design.
pradnyachauhan@gmail.com

NEWSLETTERMARCH

IIA-Rajasthan Chapter

1. Laid the foundation stone for the chapter building, becoming the second chapter of the IIA to have its own chapter building.

The Rajasthan chapter of the Indian Institute of Architects, an apex body that has been active for 107 years and has 24 chapters across the country, recently laid the foundation stone for a new building in Mansarovar, Jaipur, on Thursday, March 30, 2023, on the auspicious occasion of Rajasthan Diwas and Ram Navmi. The chapter chairman, Mr. Tushar Sogani, announced that the foundation stone was laid by Mr. Ashok Lahoti, MLA, and Mr. Pawan Arora, Commissioner of the Housing Board. The National President of the Institute, Mr. C.R. Raju, was also present at the event.

Designed by Ar. Dhruv Gupta, the building is expected to be completed within 9 months using modern technology and the green building concept. The state-of-the-art building will include a conference hall, a digital library, an art cafe, a workshop for students, and a co-working space for young architects.

The event was attended by 250 architects who showed their allegiance to the organisation, and several architects, including Ar. Vilas Awachat, Ar. Jitendra Mehta, Ar. Gyanendra Shekhawat, Ar. Prakash Mohanani, Ar. Gaurav Agrawal, and Ar. Ashutosh Bhargava, participated in the event.

2. Organised a Master Speak session hosted by Prof. Ar. Rafiq Azam.

Renowned architect Ar. Rafiq Azam delivered a successful "Master Speak" session in Jaipur. The Rajasthan chapter of the Indian Institute of Architects organised a "Master Speak" session with celebrated architect Ar. Rafiq Azam on Saturday, February 11, 2023, at the Hotel Lalit Jaipur. The event was attended by a large number of architects and was deemed highly successful.

Ar. Rafiq Azam, known for his innovative and sustainable designs, shared his vast knowledge and expertise in the field of architecture with the attendees. The session covered a range of topics related to architecture, including the importance of sustainability, the use of technology in design, and the role of architects in shaping the built environment.

The event was well-received by the attendees, who praised the valuable insights and information shared by Ar. Rafiq Azam. The Rajasthan chapter of the Indian Institute of Architects expressed its gratitude to Mr. Azam for his contribution to the event and to the field of architecture in general.

Overall, the "Master Speak" session with Ar. Rafiq Azam was a highly successful and informative event that brought together architects and enthusiasts from across the region to discuss the latest trends and practices in the field of architecture.

IIA National and Chapter executives unveiling the inaugural plank

Prof. Rafiq Azam presenting his work during the Master Speak Session.

The IIA Executive Committee during the Bhoomi Poojan

IIA Rajasthan Chapter Members attending the event

3. The IIA Jodhpur Centre organised a knowledge exchange programme.

The IIA Jodhpur Centre organised a two-day Knowledge Exchange Programme (KEP) focusing on the theme "Built Heritage: A Continuum of Contextual Contemporary Architecture". The event was successfully held on March 11 and 12, 2023, at Sri Ram International, Jodhpur. The event aimed to emphasise the importance of heritage as a continuum that keeps expanding by absorbing new thought, material, and technology to respond to and cater to contemporary needs.

The first day began with the inauguration of the architectural materials exhibition, followed by the inauguration of KEP. The sessions started with Ar. Henrique Dias, followed by Ar. Moulshri Joshi and Ai. Srijit Srinivas. A panel discussion was held in the evening, which provided an opportunity for the attendees to interact with the experts and discuss the various aspects of the theme.

The first session of the second day started with Ar. Vivek Bhole, followed by Ar. Shubhra Raje. The valedictory ceremony was held after the sessions, which concluded the two-day event. The participants also got a chance to take a heritage walk and explore the architectural marvels of Jodhpur.

The event was attended by architects, students, and professionals from the industry, who gained valuable insights into the importance of heritage and its contribution to contemporary architecture. The event concluded with a hi-tea organised at the Department of Architecture, M.B.M. University.

The IIA Rajasthan Team during the event

Chapter chairman Ar. Tushar Sogani inaugurating the event.

IIA-Haryana Chapter

GENERAL BODY MEETING AND ARCHITECTS MEET AT HISAR

The Indian Institute of Architects, Haryana Chapter, organised its 3rd general body meeting of the current term at Hotel Midtown Grand, Hisar, on Saturday 11th February 2023. It was attended by members from different parts of Haryana. The Chapter released a diary published for its members, during the meeting. A detailed presentation on 'Professional Ethics' was made by Ar. Punit Sethi, Chairman, IIA Haryana Chapter.

A diary for members being released at the General Body Meeting.

The Hisar Centre of IIA was recently granted 'Centre' status by the IIA Council after its substantial membership growth. To celebrate this feat, Hisar Centre organized a knowledge session and Architects' Meet on the same day. Dr. Rajesh Khoth, HCS, Estate Office HSVP Hisar, graced the occasion as the chief guest. In his address, he highlighted and appreciated the importance of the work done by Architects. Ar. Yatin Goyal and Ar. Nishima Goyal paid a solemn Tribute to Ar. B. V. Doshi, who passed away recently. Mr. Balram Kumar, Director of Astitva Heritage presented ongoing explorations and findings at Rakhigarhi Village and Archaeological Site. Er. Vijay Prabhakar, in his lecture "Effects of S+4 Residential Buildings on Adjoining Properties", described the scenario of structural safety issues.

The Office Bearers and Executive Committee Members inaugurated an exhibition put up by exhibitors and sponsors of the event. The evening ended with a cultural program, musical performance and fellowship dinner.

GENERAL BODY MEETING AND ARCHITECTS MEET AT SONEPAT

The Indian Institute of Architects, Sonepat Sub-Centre organised its General Body Meeting at Jurasik Park Inn, NH-44, Murthal, Sonepat on Saturday, 18th February 2023. It was well attended by Members. An interaction of Members was also organized with the Office Bearers of the Haryana Chapter to discuss various issues pertaining to Building Permits. The GBM and the Interactive Session were followed by an Architects' Meet and fellowship dinner hosted by Tata Tiscon.

IIA-Kerala Chapter

Architects call for the protection of heritage.

In the recently concluded heritage seminar, "Past Sense: Taking Heritage Forward," hosted by the Indian Institute of Architects, Thrissur Centre, for the Indian Institute of Architects, Kerala Chapter, the various participating conservation architects and architects working for the protection of heritage discussed various methods and ways in which conservation of built heritage can be carried out in Kerala.

The speakers for the seminar included Prof. Miki Desai (Ahmedabad), Prof. Manish Chakraborthi (Calcutta), & Dr. Aishwarya Tipnis (New Delhi). The panellists included Mr. Arun Narayan, Ms. Beena Thomas Tharakan, Mr. KJ Sohan, and Mr. Sunil CP, and there were specially produced video presentations by Dr. Benny Kuriakose,Prof. KT Ravindran, and Ar. Vikas Dilawari. All the speakers urged the need to take urgent measures for heritage protection considering the rapid pace at which we are losing some of our valuable structures.

The seminar was inaugurated by the lighting of the lamp by Ar. L. Gopakumar, State Chairman, IIA Kerala, and the theme of the seminar was explained by Ar. Vinod Kumar MM, Chairman, IIA Thrissur Centre.

Panel discussion with Prof. Miki Desai, Dr. Beena Thomas Tharakan and Arun Narayanan.

Panel discussion with Dr. Aishwarya Tipnis, KJ Sohan, Prof. Manish Chakraborthi and Ar.Sunil CP.

Group photo with speakers, panellists, and participants.

IIA Kerala Chairman, Ar. L. Gopakumar, launching the 'Ayanam' heritage trail and its logo.

AYANAM, a 15-day curated heritage tour by the IIA Kerala Chapter planned for the month of May, was launched at the venue by Mr. L. Gopakumar. The Heritage Co ordinators, Niranjan Das Sharma and Shyam Kumar Puravankara, explained the concept of AYANAM.

A book, "A Round Around the Round: Story of Thrissur's Untold Heritage," written by Lakshmi Krishnaraj and Radhika KM, was also launched at the venue.

The event also had a Pavakathakali performance by the Natanakairali troop.

On the subsequent day, it was a day of live tours and trails, including a tree walk of Thekkinkad Maidan with Dr. N. Sasidharan, a tour to the megaliths of Kunnamkulam, Kodanat Mana, the Angadis of Kunnamkulam, and the Chemmanthitta temple premises.

Thus, the event in which some of the heritage leaders of the country participated discussed ways in which conservation of built heritage can be carried out, and the Indian Institute of Architects plans to give the proposals to the state government, which is also currently contemplating a design policy for the state.

Vinod Kumar MM
Chairman, IIA Thrissur Centre

ADVERTISE WITH JIIA

	3 ISSUES	6 ISSUES	12 ISSUES
BACK COVER	**12,00,000**	**20,00,000**	**36,00,000**
INSIDE COVER Front & Back	**9,00,000**	**17,00,000**	**30,00,000**
INSIDE COVER Front & Back Together	**14,00,000**	**24,00,000**	**42,00,000**
FULL PAGE	**7,00,000**	**12,00,000**	**18,00,000**

PIPING | PRE WALL | DRAINAGE

viega

Viega Prevista.

Flush Ready in 27 seconds.

www.viega.in Viega India viega.india Viega India innovations@viega.in Call us at +91 9633098400

QUEO
european bath lounges

WE IMAGINED LUXURY. AND THEN BROUGHT IT TO LIFE.

Witness a true-to-life manifestation of beauty and luxury with Queo's European Bath lounges. Designed and crafted meticulously by masterful European designers, our bath lounges evoke a luxurious experience that will linger long after you left it.

www.queobathrooms.com
queo_bathrooms

88/03
IIA PUBLICATION
POSTAL REGD. NO.MCS/007/2021-23

RNI NO.9469/57
POSTED AT PATRIKA CHANNEL SORTING OFFICE, MUMBAI-400001
PUBLISHED ON 14TH OF EVERY FOLLOWING MONTH AND
POSTED ON 15TH & 16TH OF EVERY FOLLOWING MONTH

JKcement

33rd Architect of the Year Awards

JK AYA

33rd JK AYA is OPEN FOR PARTICIPATION

AWARD CATEGORIES

GREAT MASTER'S / CHAIRMAN'S AWARD
(Once in 3 years)

GREEN ARCHITECTURE AWARD
(ENVIRONMENT CONSCIOUS DESIGN)

(**Eligible Countries** : India, Bangladesh, Bhutan, Kenya, Maldives, Mauritius, Nepal, Seychelles, Sri Lanka, Tanzania & Uganda)

INDIAN ARCHITECTURE AWARDS(IIA)
(**Eligible** : Any Indian Architect)

ARCHITECTURE STUDENTS OF THE YEAR AWARD
(**Eligible** : Final year undergraduate students of Indian Colleges)

FOREIGN COUNTRIES' ARCHITECTURE AWARDS (FCAA)
(**Eligible Countries** : Bangladesh, Bhutan, Kenya, Maldives, Mauritius, Nepal, Seychelles, Sri Lanka, Tanzania & Uganda)

INDIAN STATE ARCHITECTURE AWARDS (ISAA)
(**Eligible States/UT** : States by Rotation)

APPLY ONLINE

www.aya-jkcement.com

Last date 30th JUNE 2023

For further information about JK AYA please contact :

RANA PRATAP SINGH
Administrator (JK AYA)
JK CEMENT LTD.
JK White Cement Works, P.O. Gotan, Dist.
Nagaur 342902 (Rajasthan) India | Ph. +91 01591-230201, Ext. 2299
Mo. : +91-95822 19292 | Email : ranapratap.singh@jkcement.com

OUR PRODUCTS :

JK SUPER CEMENT BUILD SAFE | JK SUPER STRONG BUILD SAFE | JK SUPER STRONG BUILD SAFE Weather Shield | JKcement WhiteMaxX White Portland Cement | JKcement WallMaxX White Cement Based Putty | JKcement ShieldMaxX Universal Waterproof Putty | JKcement TileMaxX Premium Adhesives and Grouts | JKcement GypsoMaxX Premium Gypsum Plaster | JKC WOOD AMORE Italian Wood Finishes

Awards instituted by **JK Cement Ltd.**, Kanpur, India, Since 1990