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35th JK AWARDS



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THE INDIAN INSTITUTE OF ARCHITECTS



CONTENTS

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07**PRESIDENT'S MESSAGE****08****EDITOR'S NOTE****09****COVER THEME**
From Vision to Legacy
JIIA Team**10****JIIA CALL FOR
PAPERS, ARTICLES,
PROJECTS****11****Winners of 35th JK AYA****12****MESSAGE FROM THE DESK OF MD**
Dr. Raghavpat Singhanian**13****About JK AYA****14****AYA Fact File / Company Profile****15****35th JK AYA JURY MEETING & WINNERS
ANNOUNCEMENT CEREMONY**
Rana Pratap Singh**16****Jury Members for 35th JK AYA Awards**

17**35th JK AYA Juror Panel****19****Jury Meeting Photos****24**

**GREEN ARCHITECTURE
AWARD**
**The Street, Pune : Reviving the
Timeless Pulse of Indian Bylanes**
Ar. Deepak Gugarii

29

Architect of the Year
**School of Architecture :
Mizoram University, Aizawl**
Ar. R. Lalrinzuala

33

Commendation Awards
Private Residence
Stepped Well House
Ar. Avinash Ankalge

37

Commendation Awards
Public Building
Figured Ground
Ar. Praveen Bavadekar

41

Commendation Awards
Hospitality Buildings
**Toit, Bagmane : Brewing
Spaces, Building Communities**
Ar. Sunanda A.J.R.

45

Commendation Awards
Young Architect's Award
**A Modest House in 'Pol'
Neighbourhood, Ahmedabad**
Ar. Caitanya Patel, Ar. Jay Vadodaria,
Ar. Parth Patel and Ar. Vivek Gajjar

49

Commendation Awards
Architecture Student of the Year
**The Science-Soil Nexus
: Redefining Viticulture
Ecosystem**
Ms. Pornima Kotecha

52

**INDIAN STATES
ARCHITECTURE AWARDS**
Architect of the Year
**Storii by ITC Hotels, Devasom :
The Wellness Retreat**
Ar. Vivek Singh Rathore
Ar. Anuradha Puri Rathore

58

Commendation Award
**Symphony in Space and Shadow
: The Architectural Poetics of
Tokaroun, Artist Residence,
Santiniketan, West Bengal**
Ar. Milon Dutta

62

Architect of the Year
**Narayanganj City Park and
Baburail Canal Restoration**
Md Ishtiaque Zahir and Iqbal Habib

66

Commendation Award
Nooruddin Complex
Ar. Mahmudul Anwar Riyaad, Ar. Mamnoon
Murshed Chowdhury, Ar. Shaoki Shamim, Dhaka

72

Young Architect of the Year
**Visitors Information Centre :
Ruaha National Park, Tanzania**
Ar. Mickdady Mchau

76

RESEARCH PAPER
**Enhancing Winter Indoor Air Quality
Through Building Bye-Law Reforms :
A Case Study of Hisar, India**
Ar. Bindu Dhanda, Dr. Tejwant Singh Brar
and Dr. Mohammad Arif Kamal

80

RESEARCH PAPER
**The Paradox of Rapid
Urbanisation**
Ar. Himani Sanjiv Tawade, Dr. Atul Kumar
Singla and Ar. Khushboo Adhiya

91**NEWSLETTER JUNE**



Dr. Abhijit Natu



Dr. Parag Narkhede

Dr. Abir
Bandyopadhyay

Dr. Chandrashekhar

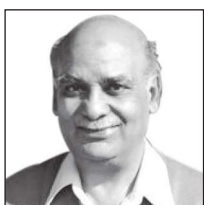
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PRESIDENT'S MESSAGE



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**Ar. Chamarthi
Rajendra Raju**
Imm. Past President, IIA

Dear Members,

Greetings!

The Indian Institute of Architects continues to move forward with a shared commitment to strengthening our profession and our Institute through active member participation and collective responsibility.

With the election process for the term **2026–2028** now underway, I encourage every eligible member to participate responsibly and uphold the democratic values that have always guided our Institute. Your involvement is vital in shaping the future of IIA and ensuring that the Institute continues to serve the profession with integrity and vision.

As we progress together, let us remain committed to professional excellence, ethical practice, and meaningful contributions to the built environment. The strength of IIA has always been its members, and your continued support and engagement are instrumental in achieving our shared goals.

I thank you for your unwavering trust and commitment to the Institute and look forward to your continued participation in the journey ahead.

Warm regards,

Ar. Vilas Avachat

President

The Indian Institute of Architects

EDITOR'S NOTE

Celebrating Excellence, Building Global Connections

Greetings to all members of the Indian Institute of Architects.

The July 2026 Special Issue of the Journal of the Indian Institute of Architects is dedicated to celebrating the 35th JK Architect of the Year Awards, one of India's most respected recognitions for excellence in architecture. For more than three decades, these awards have inspired architects across the country to pursue innovation, design excellence, sustainability and social responsibility while continually raising the benchmarks of professional practice.

The projects featured in this issue reflect the remarkable diversity and depth of architectural thought emerging from across India. They demonstrate how architecture responds to context, climate, culture and community, while embracing new technologies and evolving aspirations. Each awarded project is a reminder that meaningful architecture is measured not merely by its physical form, but by the lasting impact it creates on people and places.

On behalf of the Indian Institute of Architects, I extend my heartfelt congratulations to all the award recipients, shortlisted participants and every architect who submitted their work for the 35th JK Architect of the Year Awards. Every participation contributes to strengthening our collective pursuit of excellence and enriches the architectural discourse in our country.

I also express our sincere appreciation to JK Cement Ltd. for its unwavering commitment to the architectural profession. Through its continued patronage of the JK Architect of the Year Awards, JK Cement has played a significant role in encouraging creativity, recognising professional achievement and fostering a culture of excellence within Indian architecture. Their longstanding partnership with the profession remains a valuable contribution to the growth of architectural practice in India.

While this issue celebrates excellence at home, it also comes at a time when Indian architects are making an increasingly meaningful contribution to the global architectural community. The recent participation of the Indian Institute of Architects at the UIA meetings in Barcelona provided an excellent platform for engaging with architects and institutions from across the world. These interactions reaffirmed India's growing influence in international architectural discourse and opened new avenues for

collaboration, knowledge exchange and professional partnerships.

The momentum now continues as India prepares to host ARCASIA Forum 22 from 8th to 12th September 2026. This prestigious gathering will bring together architects, planners, educators and students from across Asia, providing a unique opportunity to showcase India's architectural achievements while collectively addressing the future of our built environment. I warmly invite members of the Indian Institute of Architects and our colleagues across Asia to participate in this landmark event and contribute to shaping the next chapter of our profession.

As we celebrate excellence through this special issue, let us continue to learn from one another, inspire future generations and strengthen the architectural fraternity through collaboration, innovation and professional integrity. Together, we move confidently towards ARCASIA 2026 and the UIA World Congress in Mumbai in 2027, carrying the aspirations of Indian architecture onto the global stage.

Warm Regards,

Ar. Vinit Mirkar

Editor

Journal of the Indian Institute of Architects (JIIA)



Ar. Vinit Mirkar

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From Vision to Legacy



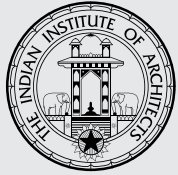
The cover of the June 2026 issue of the Journal of the Indian Institute of Architects celebrates the 35th JK Architect of the Year Awards through an abstract composition of interlocking geometric forms. The graphic symbolises the layered process of architectural thinking, where creativity, technology, craftsmanship and innovation converge to shape the built environment.

The sculptural arrangement reflects architecture as a discipline built through collaboration, precision and continuous evolution. The transition from warm metallic gold to cooler graphite tones signifies the journey from vision to realisation, while also celebrating excellence, integrity and enduring professional values. The interplay of solid volumes and light emphasises balance, structural clarity and timeless design.

Free from stylistic or regional references, the composition becomes a universal metaphor for architectural excellence. It honours the remarkable legacy of the JK Architect of the Year Awards and celebrates architects whose work continues to inspire innovation, enrich communities and shape a sustainable future for the profession.

Rendered in a refined contemporary visual language, the cover reflects the aspirations of a profession that continues to evolve while remaining rooted in timeless design principles. It celebrates not only the achievements of this year's award recipients but also the collective pursuit of excellence that has defined the JK Architect of the Year Awards for thirty-five years.

Ultimately, the cover is a tribute to architects whose ideas transform abstract concepts into enduring places of significance. It reaffirms architecture as a discipline that continuously builds upon knowledge, innovation and cultural responsibility, inspiring future generations to shape environments that are sustainable, meaningful and transformative.



JIIA Call for Papers, Articles, Projects

The Journal of the Indian Institute of Architects invites original and unpublished contributions from members **ONLY** (academicians, practitioners and students) under the following FOUR categories. Submission in each category is strictly only through the respective google forms.

In order to be accepted for publication, all material sent in these categories should have the following components:

1. 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.
2. Folder with all images (minimum 300 dpi), numbered according to the captions given in your text file
3. Photograph of the author/s (minimum 300 dpi).
4. Author biodata – Maximum 50 words.
5. PDF (optional)– showing the intended layout. This pdf should include text and all images, with numbered captions.

Category 1 : Articles

google form link: <https://forms.gle/pJ2d4MVYqyPzWiVc9>

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).

- 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.

Category 2 : Student Work

google form link: <https://forms.gle/8wDCYFusLb7hWcpa6>

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).

Category 3 : Contributions from Chapter Correspondents

google form link: <https://forms.gle/kdVvqQUmWDmRhjGi8>

- (a) Chapter News: This includes various interesting activities from the Centres of your Chapters (maxm. 500 words for the news from the entire Chapter).
- (b) News of conferences by the academic institutes in your respective Chapters.
- (c) 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.

Category 4 : Research Papers

google form link: <https://forms.gle/4CmCsXQJdrBiSrSD8>

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

Category 5 : JIIA Cover + Theme Note

google form link: <https://forms.gle/En69gXSps2j72Hrf7>

Students from affiliated colleges are invited to design the cover page theme. This should be a graphic based on some aspect of Indian Knowledge Systems. The submission will include the graphic file (jpeg or corel draw); a theme note (with a title) of about 500 words explaining the concept of the graphic. Please note that the image you send should be within a SQUARE of 15 x 15 cm. It will be adjusted as per the layout requirements of the JIIA Cover. It should NOT contain any text / slogan/ etc.

Please note:

1. All submissions will be accepted only through google forms.
2. Submissions will **NOT** be accepted through email.
3. Any queries to be addressed to : jiiacomment@gmail.com.
4. When you correspond with us, please give your email id (that you regularly use) and your cell no. (preferably with WhatsApp).
5. It is compulsory to mention your IIA regn. No. Submissions will **NOT** be accepted from non-members.
6. 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.
7. JIIA does not charge any fees for publication of any professional or academic work.
8. It is understood that submission from an author is an original work, unpublished anywhere else, and that IIA and JIIA are in no way responsible for any matter or dispute arising out of the publication of the same.
9. All authors are requested to refer to further detailed information available on the JIIA website.

GREEN ARCHITECTURE AWARD

Eligible countries: India, Bangladesh, Bhutan, Kenya, Maldives, Mauritius, Nepal, Seychelles, Sri Lanka, Tanzania & Uganda

Ar. Deepak Gugarii
Project: The Street, Pune

INDIAN ARCHITECTURE AWARDS (IAA)

Eligible Country: India

Architect of the year

Ar. R. Lalrinzuala, Aizawl

Project: School Of Architecture, Mizoram University, Aizawl

Commendation Awards

Private Residence

Ar. Avinash Ankalg, Bengaluru

Project: Stepped Well House, Bengaluru

Hospitality Buildings

Ar. Sunanda A J Radhakrishnan, Bengaluru

Project: TOIT, Bengaluru

Public Building

Ar. Praveen Bavadekar, Belgaum

Project: Figured Ground - University Sports Arena, Hubli

Young Architect's Award

Ar. Caitanya Patel, Ahmedabad

Project: A Modest House In 'Pol' Neighbourhood, Ahmedabad

Architecture Student of the year

Ms. Pornima Kotecha

College: Kamla Raheja Vidyanidhi Institute for Architecture and Environmental studies, Mumbai

Project: The Science-Soil Nexus: Redefining Viticulture Ecosystem

INDIAN STATES ARCHITECTURE AWARDS

Focus States: West Bengal, Assam and N.E. States

Architect of the year

Ar. Vivek Singh Rathore, Kolkata

Project: ITC Storii Devasom, Kolkata

Commendation Award

Ar. Milon Dutta, Birbhum, W.B.

Tokaroun Artist Residence, Santiniketan W.B.

FOREIGN COUNTRIES' ARCHITECTURE AWARDS (FCAA)

Eligible countries: Bangladesh, Bhutan, Kenya, Maldives, Mauritius, Nepal, Seychelles, Sri Lanka, Tanzania & Uganda

Architect of the year

Ar. Ishtiaque Zahir and Ar. Iqbal Habib, Dhaka

Project: Narayanganj City Park & Baburail Canal
Restoration, Narayanganj, Bangladesh

Commendation Award

**Ar. Mahmudul Anwar Riyaad, Ar. Mamnoon
Murshed Chowdhury, Ar. Shaoki Shamim, Dhaka**

Project: Nooruddin Complex, Narayanganj BD

Young Architect of the Year

Ar. Mickdady Mchau, Dar Es Salaam

Project: Visitors Information Centre, Tanzania

MESSAGE FROM THE DESK OF MD

Dr. Raghavpat Singhania



I am so happy to congratulate everyone who took part in the 35th JK Architect of the Year Awards. Honestly, seeing all the creative and beautiful designs you sent in was amazing. Our goal has always been to show off great architecture, and this was the perfect chance to celebrate the hard work of people who are truly making a difference.

We are so excited about these awards that we decided to give them a fresh new look! This year, we updated our logo and our website. We are also working hard to share the ideas of our winners with young people to help inspire them.

I also want to say a big thank you to our juries. They did a great job looking at every entry and helping us pick the best ones.

To the winners: a huge congratulations! Your work shows how much heart and vision you have. It's wonderful to see your projects featured in the Journal of the Indian Institute of Architects. I know you will keep doing great things for the future. To everyone else who entered: thank you so much. We saw your hard work, and I really hope you keep trying new things and coming up with fresh designs.

Thanks again to everyone who was a part of this. I'm already excited to see more of your work. Please come and join us for the 36th JK AYA!

Best wishes and thanking you all.

Dr. Raghavpat Singhania
Managing Director - JK Cement Ltd.
& Chairman - JK AYA

About JK AYA



Architecture, the art and science of space design, mirrors human progress. Early structures, from simple shelters, evolved with new materials and techniques. Cultural shifts shaped styles, from classical grandeur to modern minimalism. The Industrial Revolution brought mass production and steel, enabling skyscrapers.

Today, sustainability drives innovation. Architects design energy-efficient buildings, integrating technology and nature. This evolution reflects our changing needs, values, and understanding of the world, shaping how we live and interact with our environment.

The JK Architect of the Year Award (JK AYA), established in 1990 by the late Shri Yadupati Singhania to honor architects for their creative vision, continues under the leadership of Dr. Raghavpat Singhania, Managing Director and Chairman of JK AYA, and Madhav Krishna Singhania, Joint Managing Director and CEO, with a dedication to recognizing outstanding architectural achievements.

The award, which was initially started as an Indian Awards, is now 34 years old and considered as a significant achievement among the architect community, not only in India but also in 10

neighbouring countries i.e. Bangladesh, Bhutan, Kenya, Maldives, Mauritius, Nepal, Seychelles, Sri Lanka, Tanzania and Uganda.

These Awards consider many aspects to give a fair chance to all generations of architects and the jury is selected from various states and different connected Countries to keep healthy and unbiased results for the 13 award categories, strictly following the “Code of Participation”.

An Apex award is given for lifetime contribution under the honour “Great Master's Award”, once in three years, and the “Young Architect's Award” is given to the young mind who going to be the next generation pioneer. Also “Architecture Student of the Year Award” was introduced for students of architecture many years ago.

Driven by the passion for these awards, we have rebranded the JK AYA logo and website this year, and are expanding our reach to inspire young minds with the ideologies of our winners and associated architects.

A dignitary from India presides over the function for award distribution. This has been the tradition since 1990. The list of Chief guests since AYA-1990 is as follows:

1 st JK AYA	HON'BLE Dr. Shankar Dayal Sharma, Vice President of India
2 nd JK AYA	HON'BLE Smt. Krishna Sahi, Minister of State for Industries.
3 rd JK AYA	HON'BLE Smt. Sheila Kaul, Minister of Urban Development
4 th JK AYA	HON'BLE Shri Madhav Rao Scindhia (Alternate Dr. Gaur Hari Singhania)
5 th JK AYA	HON'BLE Dr. Smt. Najma Heptulla, Deputy Chairperson, Rajya Sabha
6 th JK AYA	HON'BLE Shri HD Deve Gowda., Prime Minister of India
7 th JK AYA	HON'BLE Shri I.K. Gujral, Prime Minister of India
8 th JK AYA	HON'BLE Shri Ashok Gehlot, Chief Minister of Rajasthan
9 th JK AYA	HON'BLE Lt. Gen. (Retd) J.F.R. Jacob, Governor of Punjab
10 th JK AYA	HON'BLE Shri N Chandrababu Naidu, Chief Minister of Andhra Pradesh
11 th JK AYA	HON'BLE Shri Digvijay Singh, Chief Minister of Madhya Pradesh
12 th and 13 th JK AYA	HON'BLE Vice President of India Shri Bhairon Singh Shekhawat
14 th JK AYA	HON'BLE Shri T.N. Chaturvedi, Governor of Karnataka
15 th JK AYA	HON'BLE Shri Chhagan Bhujbal, PWD Minister, Govt. of Maharashtra
16 th and 17 th JK AYA	HON'BHON'BLE Shri S.C. Gupta, Chairman United Bank of India
18 th JK AYA	HON'BLE Shri R.S. Gawai, Governor of Kerala
19 th JK AYA	HON'BLE Shri Shivraj Patil, Governor of Punjab and Administrator UT of Chandigarh
20 th JK AYA	Hon'ble Shri Digambar Kamath, Chief Minister of Goa
21 st JK AYA	Hon'ble Shri Basil Rajapaksa, Cabinet Minister for Economic Development, Govt. of Sri Lanka
22 nd JK AYA	Hon'ble Dr. K. Rosaiah, Governor of Tamil Nadu
23 rd JK AYA	HON'BLE Shri Ram Naik, Governor of Uttar Pradesh
24 th JK AYA	HON'BLE Gurudev Shri Sri Ravishankar, the founder of “Art of Living”
25 th JK AYA	HON'BLE Shri Nitin Gadkari, Minister for Surface Transport, Govt. of India
26 th JK AYA	HON'BLE Dr. K. Radhakrishnan, Padma Bhushan and Advisor and ex-Chairman ISRO
27 th JK AYA	HON'BLE Ar. B.V. Doshi, Padma Shree and Pritzker laureate
28 th JK AYA	HON'BLE Gen. V.P. Malik, former chief of army staff, Indian Army
29 th and 30 th JK AYA	HON'BLE Smt. Anandi Ben Patel, Governor of Uttar Pradesh
31 st JK AYA	HON'BLE Lt. Gen. Gurmit Singh (Retd.), Governor of Uttarakhand
32 nd JK AYA	Hon'ble Lieutenant Governor of Jammu and Kashmir, Shri Manoj Sinha
33 rd JK AYA	Hon'ble Governor of Kerala, Shri Arif Mohammed Khan
34 th JK AYA	Hon'ble Former President of India, Shri Ram Nath Kovind

AYA Fact File

- J.K. Cement Ltd. instituted this award in 1990.
- Hon'ble Dr. Shankar Dayal Sharma, Vice President of India, was the chief guest at the 1st AYA Award Ceremony.
- Ar. Laurie Baker from Thiruvananthapuram was the first winner of the Great Master's Award.
- Ar. Anant D. Raje from Ahmedabad was the first winner of the Architect of the Year Award.
- "Trophy" together with the name "Architect of the year Awards" was registered as an Artistic work with the register of copyrights, Govt. of India in 1995 with registration NO. A 52959/95/
- "Code of Procedure" relating to AYA has been registered as literary work register of copyrights, Govt. of India in 2006 with registration no. L-27341/2006.
- Focus countries awards were introduced from the 7th AYA.
- The Young Architect's Award was introduced at the 7th AYA.
- Focus states' awards were introduced from the 9th AYA.
- Jury meeting and award function was held outside Delhi for the first time from 8th AYA and since then, held each year in a different town.
- The Green Architecture award for Environment Conscious Design was introduced at the 20th AYA.
- The Award Function was held outside India for the first time at Colombo, Sri Lanka, for the 21st AYA.
- Student Architect of the Year Award introduced from 24th JK AYA.
- Kenya, Uganda and Tanzania included in Focus Countries from 24th JK AYA.
- Ownership of entire activities related to "Architect of the Year Awards" rests with J.K. Cement Ltd.

Company Profile

JK Cement Ltd. is one of India's **leading manufacturers of Grey Cement** and one of the **leading White Cement manufacturers** in the World. Over five decades, the Company has partnered with India's multi-sectoral infrastructure needs on the strength of its product excellence, customer orientation, and technology leadership. JKCement commenced operations with the launch of its flagship grey cement unit in Nimbahera, Rajasthan, in May 1975.

As of now, the company has an **installed capacity of 32.26 million tons per annum (MnTPA)** for grey cement, positioning it among the top cement manufacturers in the country. JKCement is also a leading global manufacturer of white cement, with a total **white cement capacity of 1.12 MnTPA** in India, and a **wall putty capacity of 1.33 MnTPA**. JK White Cement products are sold in 36 countries worldwide, and the company has a robust international presence through its subsidiaries, JK Cement Works Fujairah FZC and JK White Cement (Africa) Ltd.

JK Cement also manufactures White cement & Grey Cement based Value Added Products like Wall Putty (**JKC WallMaxX, JKC WallMaxX Advance & JK ShieldMaxX**), Tile Adhesive & Grouts (**JKC Tylo**), advanced waterproofing solution (**JKProfix**), Wood Finishes (**Wood Amore**) and has also recently stepped into the paint business with **JKMaxX Paints**.

The Company's manufacturing plants have modern equipment like Fuzzy Logic, QCX & other computer-based process controls. The use of high-purity raw materials and quality testing at each stage of the cement manufacturing process upholds its quality standards and helps to maintain the critical parameters of its content to ensure product quality.

JK Cement's integrated management systems - ISO 9001, ISO 14001, ISO 45001 and ISO 50001 are certified by Lloyd's Register Quality Assurance (LRQA), UK and the SA 8000 Management System is certified by RINA, Italy. All these facilities put together ensure consistency in quality & performance with our corporate song "**Hum Banayein Kal**".

The Company's laboratory is also accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) - the first for any Indian Cement Plant. JK Cement Ltd. is also a Member of the Indian Green Building Council (IGBC).

JK Cement is a pioneer in felicitating the outstanding contributions of Architects in the form of the **JK Architect of the Year Awards (JK AYA)**, a brainchild of the **Late Shri Yadupati Singhania, Former Managing Director, of JK Cement Ltd.** JK AYA was instituted in 1990 to encourage the professionals to strive towards further raising the bar in architecture standards of the Country. JK AYA, since then, has lived up to its legacy of awarding excellence every year & has helped pave the way for a better tomorrow in design which is continuing under the leadership of **Dr. Raghavpat Singhania, Managing Director & Chairman JK AYA** and **Mr. MadhavKrishna Singhania, Joint MD and CEO, JK Cement Ltd.**

35th JK AYA JURY MEETING & WINNERS ANNOUNCEMENT CEREMONY

Location : Shillong, Meghalaya

Date: 13 and 14 March 2026

The Jury Meeting and Winners Announcement Ceremony for the 35th JK Architect of the Year Awards was organized by JK Cement Ltd. at the Hotel Windermere, Shillong on March 13th and 14th, 2026. The event saw the participation of numerous local and international architects.

The Jury Meeting is a pivotal event for the JK AYA, marking the culmination of the year's participation and involving extensive discussions among jury members to determine the winners.

The first day commenced with a jury briefing and individual evaluations of the design panels exhibited by participants. Selected jury members from across India and abroad meticulously examined each entry and provided feedback. The exhibition was open for two days, allowing final-year architecture students from various colleges in Shillong and near by areas to engage with the jury members and discuss the designs and the future of architecture.

The second day featured in-depth discussions among the jury members in a closed-door meeting to finalise the winners. After thorough deliberation, the jury reached a consensus and selected the winning designs in various categories.

In the evening, the Winners Announcement Ceremony was held to reveal the recipients of the 35th JK AYA awards. Jury members announced the winners and presented detailed project descriptions of entries from both India and abroad. The ceremony was attended by architects, builders, and esteemed professionals from the building industry, celebrating architectural excellence.



During the ceremony, selected jury members from India and other countries presented their ongoing and completed projects, highlighting key design features and philosophies. This provided a valuable platform for architects, construction professionals, and students to engage in creative discussions and exchange innovative ideas.

Overall, the jury meeting was a resounding success, bringing together some of the brightest minds in architecture and design. It served as an excellent platform for showcasing creativity and innovation, while fostering knowledge-sharing and expertise exchange among industry professionals.

We extend our heartfelt gratitude to all jury members and professional advisors for their invaluable support and contributions. Congratulations to all the winners of the 35th JK AYA. We look forward to celebrating with you at the Grand Award Presentation Ceremony later this year!

We look forward to another active participation for the ongoing 36th JK Architect of the Year Awards.

Rana Pratap Singh
Administrator, JK - AYA



Jury Members for 35th JK AYA Awards

Ar. Rajiv Chadda, Ranchi

Ar. Rajeev Kathpalia, Ahmedabad

Ar. Atul Kumar Singla, Jalandhar

Ar. Sidhartha Talwar, New Delhi

Ar. Murali Murugan, Chennai

Ar. Prashant Deshmukh, Pune

Ar. Kamal Periwal, Kolkata,

Ar. Evans Juma Oino, Kenya

Ar. Jason Kiun-Fat Chan Sip Siong, Mauritius

Ar. Aiban S Mawkhroh, Shillong

Professional Advisor: Shillong, Meghalaya

Ar. Surya Kakani, Ahmedabad

Student Jury Member



Jury Members of the 35th JK AYA Awards at Shillong, Meghalaya on 13 and 14 March 2026

35th JK AYA Juror Panel



Ar. Rajiv Chadda is a veteran architect and urban planner with over 50 years of experience and the Principal Architect of Chadda & Associates. He is widely recognized for his contribution to the architectural and urban development of Jharkhand, particularly Ranchi. His design philosophy combines modernist principles with passive sustainability, emphasizing natural ventilation, daylighting, and the integration of architecture with urban planning. His notable projects include the Ranchi Railway Station renovation, Jaipal Singh Stadium, Vendor's Market, Karamtoli Talab redevelopment, and Pranami Mandir. A graduate of Sir J. J. College of Architecture, he is also respected for his mentorship and civic-minded approach.



Ar. Rajeev Kathpalia is a prominent Indian architect and urban designer with over 30 years of experience and the Designated Partner of Vastu Shilpa Sangath LLP, the practice founded by Balkrishna Doshi. His work focuses on sustainable, inclusive, and environmentally responsible design, with expertise in institutional master planning, urban design, regional planning, and affordable housing. A pioneer of net-zero campus design, he integrates architecture, landscape, ecology, and energy management. He received the Prime Minister's Award for Urban Design in 2003 and international recognition for architectural excellence. Rajeev is also an educator, researcher, and advocate for sustainable urbanism and habitat development.



Dr. Ar. Atul Kumar Singla is an accomplished architect, academic leader, and institutional planner with extensive experience in the UK and India. Currently serving as the Chief Architect and Senior Dean at Lovely Professional University, he oversees the development of large-scale infrastructure and leads the School of Architecture and Design. His career is defined by a commitment to integrating computational design, environmental responsiveness, and user-centered planning. With expertise spanning institutional and healthcare design, he actively contributes to national professional bodies and architectural education, bridging the gap between research-led design and large-scale practice.



Ar. Sidhartha Talwar is the Founder and Design Principal of STAD and a globally recognized architect known for context-sensitive, sustainable, and craft-driven design. After more than two decades as a co-founding partner of Studio Lotus, he established STAD in 2025 to pursue architecture rooted in environmental responsibility, local culture, and human experience. His notable projects include the National Police Memorial, Krushi Bhawan in Odisha, and the acclaimed Raas Jodhpur. A strong advocate of conscious design, modular construction, and artisanal craftsmanship, he has received international recognition, served on prestigious design juries, and contributed extensively to architectural education and discourse.



Ar. Murali Murugan is the founder and Principal Architect of Murali Architects, Chennai, with over 34 years of experience in architecture, urban infrastructure, and design innovation. His work combines traditional architectural values with contemporary technologies, creating context-sensitive and forward-looking spaces. His diverse portfolio includes luxury residences, healthcare facilities, educational campuses, and major public projects such as the Jayalalitha Memorial, Koyambedu Bus Terminus, and Mylapore MRTS Station. An award-winning architect and respected educator, he has served on academic and advisory bodies, contributed extensively to architectural discourse, and is recognized for excellence in design, research, and technological integration in architecture.



Ar. Prashant Deshmukh is a veteran architect, project manager, and founder of Prashant Deshmukh & Associates (PDA), with nearly 50 years of professional experience. Known for his philosophy of “Imaging Imaginations,” he specializes in transforming visionary concepts into technically sound and buildable projects. His expertise spans industrial architecture, infrastructure, airport and railway projects, and turnkey project delivery. He has collaborated extensively with international firms and is recognized for balancing cost, quality, and time in complex developments. A former advisor to DBATU, educator, and industry leader, he currently serves as Co-Chairman of the Indian Steel Construction Association for 2025–26.



Ar. Kamal Kumar Periwai is the Principal Architect of Maheshwari & Associates and has over 30 years of experience in architecture and urban development. Under his leadership, the firm has completed more than 1,000 projects across India, with offices in Kolkata, Mumbai, and Delhi. His work emphasizes contemporary, sustainable, and context-sensitive design across hospitality, residential, commercial, and educational sectors. Notable projects include The Westin Kolkata, Vivanta by Taj Guwahati, Ecospace, Candor TechSpace, The 42 Kolkata, and City Centre malls. A graduate of Jadavpur University, he is widely recognized for shaping landmark developments and advancing architectural excellence in India.



Ar. Evans Juma Oino Founder & Lead Architect, OJE ASSOCIATES who has Specialized in Architecture, Project Management, Environmental, and Interior Design. He has also Designed and Managed many commercial, Institutional, hospitality, Religious and Residential Projects in Kenya. A Visionary Architect, Educator, and Industry Leader with 27+ years of experience in Architectural design, Project management, and Academic Leadership. Renowned for spearheading large-scale public, private, and donor-funded projects while driving sustainable urban development, affordable housing, and capacity building. A Fellow of the Architectural Association of Kenya (F.AAK) with a track record of strategic planning, governance and risk management in the built environment.



Ar Jason Chan Sip Siong is a Mauritian architect and the current President of the Mauritius Association of Architects (MAA). He previously served on the association’s council as Treasurer and Vice-Secretary, playing an active role in the governance and development of the architectural profession in Mauritius. Through both his professional practice and his leadership within the MAA, Jason is committed to advancing architectural standards, promoting responsible construction practices, and strengthening collaboration within the built environment sector. He actively supports initiatives that foster professional dialogue, knowledge sharing, and opportunities for emerging architects, while contributing to the continued development and recognition of architecture in Mauritius.



Ar. Aiban S. Mawkhroh is a leading architect from Meghalaya with over 30 years of experience in architecture, heritage conservation, and sustainable design in Northeast India. As the founder and Principal Architect of Atelier A+, he is known for integrating contemporary architecture with the cultural and environmental traditions of the region. A graduate of CEPT Ahmedabad, his research on Khasi house forms continues to influence his work. He has won several design competitions, serves as President of the Meghalaya Architects Forum, contributes to architectural education and heritage initiatives, and actively advocates for traditional knowledge, sustainable tourism, and regionally responsive architecture.

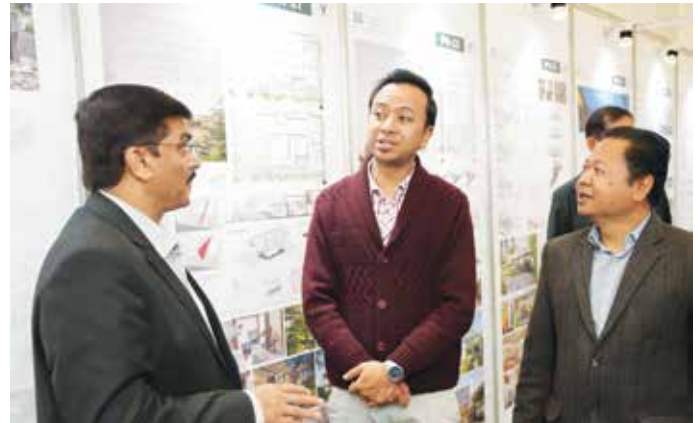


Ar. Surya Kakani is an architect, educator, and Principal Architect of Surya Kakani Associates with over 23 years of experience in architecture and urban design. His work emphasizes contextual modernism, sustainability, and climate-responsive design, integrating local materials and regional traditions with contemporary approaches. His portfolio spans educational, cultural, healthcare, and institutional projects across India, with a strong focus on community-centered and environmentally responsible design. A former Dean of the Faculty of Architecture at CEPT University, he has played a significant role in architectural education and mentorship. He holds a Master of Architecture from UCLA and a Bachelor of Architecture from CEPT University.

Jury Meeting Photos



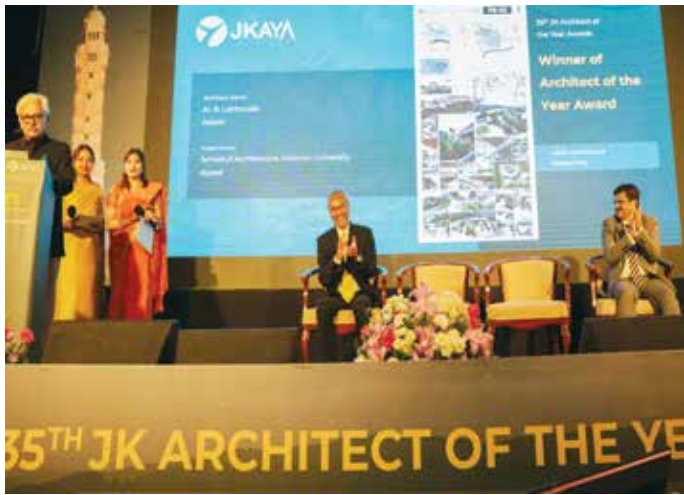
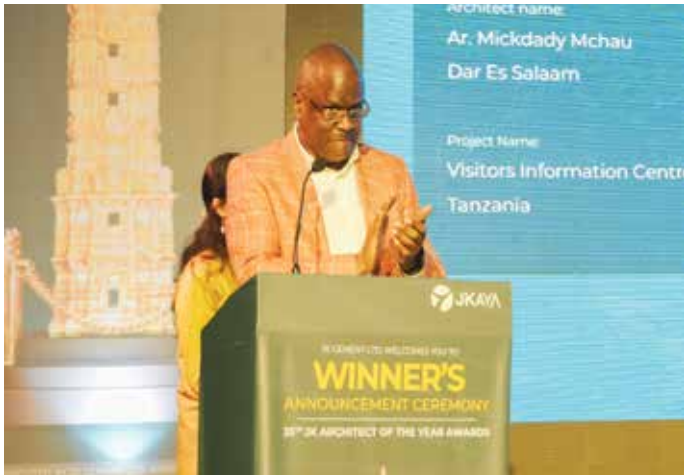
JUNE 2026











The Street, Pune

Reviving the Timeless Pulse of Indian Bylanes

By Ar. Deepak Gugarii

The concept for “The Street” as a community clubhouse is an innovative response to the challenges of urban sprawl while keeping in mind the values of traditional Indian communal living. The design concept seeks to create a space that embodies the essence of Indian streets and bylanes, where connection, interaction and shared experiences form the core of community life. By mimicking the simple yet profound interactions that happen on these streets, the project aims to foster a space for people to gather, engage and build a sense of belonging.

24

Designing a community hub for 800 people, within a limited footprint, introduces significant complexity. The design must be highly efficient and adaptable, ensuring that every square foot is utilised optimally while maintaining a sense of openness and accessibility. This balance between functionality and connection is essential for a space that is meant to grow with the community and provide opportunities for interaction, without feeling overcrowded.

By integrating local architectural styles with modern needs, “The Street” becomes a bridge between the past and the future, serving as a testament to how simple, thoughtful design can have a lasting impact on community life. The project demonstrates how architecture can nurture relationships, support social dynamics and create meaningful spaces even in the face of urban challenges.

The concept for the club house is an imaginative and thoughtful take on creating a communal space that respects both traditional Indian living and modern needs, while also responding to the realities of a growing urban population on the outskirts of the city.

Concept Overview

The community clubhouse is a facility designed for a plotted community with affordable 1500 sq ft plots, where each buyer constructs their own dream home.



Figure 1: Dead walls guide the journey and build suspense for what lies beyond.



Figure 2: Partially submerged in the terrain, the clubhouse merges with the horizon.



Figure 3: The art of the pause: micro-plazas encourage slow and connected living.

As urban areas become more expensive, people are moving to the outskirts of the city and the community club aims to make this transition smoother by providing a space that complements the Indian way of life—focusing on community interaction, shared experiences and traditional values. The community club is not merely a collection of amenities but a thoughtfully designed space that nurtures a natural, open and connected lifestyle.

This community club breaks away from the typical, stereotypical clubhouses that developers often build merely as a marketing tool to attract buyers during the initial phase of plot sales. Instead of focusing solely on amenities, this club is designed to foster genuine community engagement. Its thoughtfully designed meandering street encourages moments of surprise and pause, creating opportunities for people to interact, connect and share their stories in meaningful ways.

Key Design Principles

1. Community and shared experiences: The clubhouse is not just a physical structure with amenities like a gym, pool and restaurant; it's designed as a space where people can interact naturally. It promotes the communal spirit of India—walking together, celebrating religious festivals, playing, cycling and even taking pets for walks. The design focuses on facilitating these activities and encouraging spontaneous interactions, much like the vibrant, communal nature of Indian streets and neighbourhoods.

2. Seamless connectivity: The clubhouse features a street-like design that connects various functions such as banquet halls, restaurants, pools, gyms and terraces. This street, central to the design, allows residents to move smoothly from one area to another without the need for stairs, reflecting the fluidity and openness of Indian lifestyles. The seamless transitions between different spaces mirror how people naturally move through their lives, connecting with their surroundings and each other.



Figure 4: Inspired by traditional towns, the brick tower acts as a modern stambh.

3. Submerged and integrated with nature: The clubhouse is partially submerged into the earth, following the old principles of “cut and fill” construction. This allows the facility to blend harmoniously with its surroundings while minimising its visual impact on neighbouring plots. The design intends to grow organically from the ground up, creating a space that feels like a natural extension of the land rather than an imposing structure. This approach also enhances the sense of discovery and exploration, as the street-like design unfolds with surprising twists and turns.

4. Traditional influence and symbolism: The inclusion of a water tower on the southern side of the site draws inspiration from traditional Indian towns and villages, where water towers or *stambhs* (the monolith in ancient Indian architecture) served as landmarks, signalling ones arrival into a town. This



Figure 5: Monumental geometry hosting the slow and unhurried rhythm of community life.



Figure 6: A micro-perspective on local material honesty and meticulous masonry bonding users with nature.

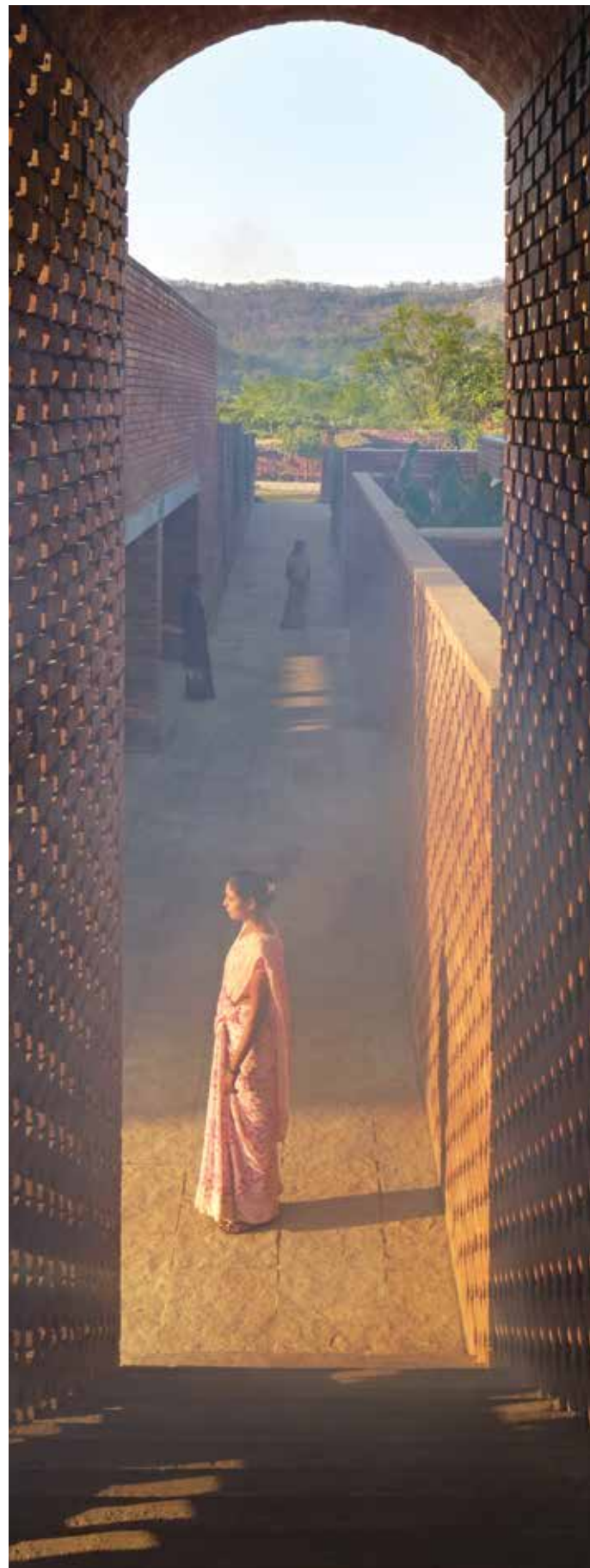


Figure 7: Peering through porous brickwork to capture glimpses of the context beyond.

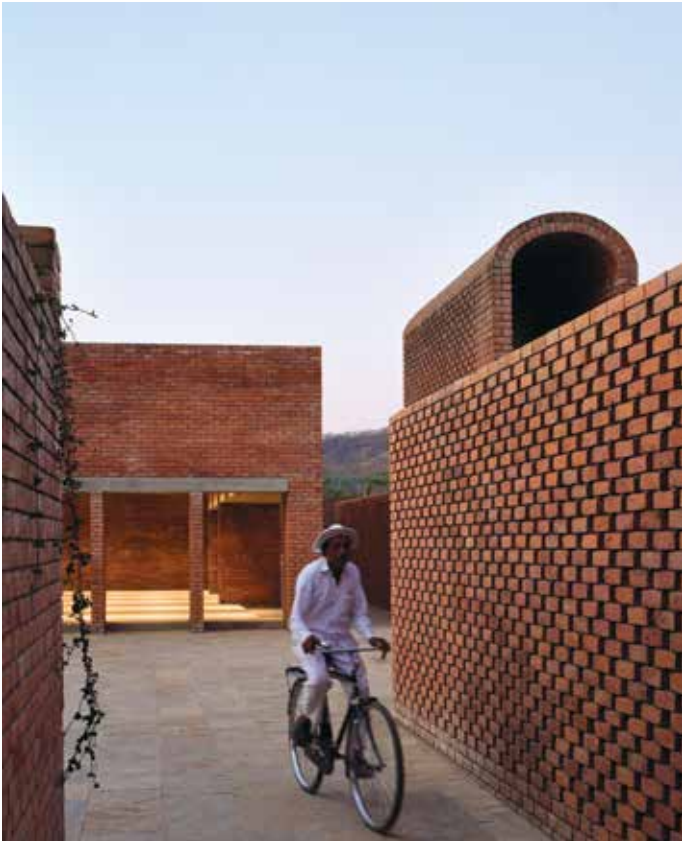


Figure 8: Modern brick corridors designed to invite the organic flow of daily transit.



Figure 9: Night-time illumination emphasises the intricate geometry of the masonry skin.

design element ties modern development to the cultural and historical roots of Indian architecture, while also following the principles of *Vastu Shastra*, a traditional system of architecture. The structure prominently features exposed local red brick and raw concrete finishes, reinforcing the rustic aesthetic and grounding the built form in its contextual landscape.

5. Nostalgia and the Indian psyche: The layout of the clubhouse evokes the feeling of Indian bylanes—alive with activity, full of surprises and encouraging

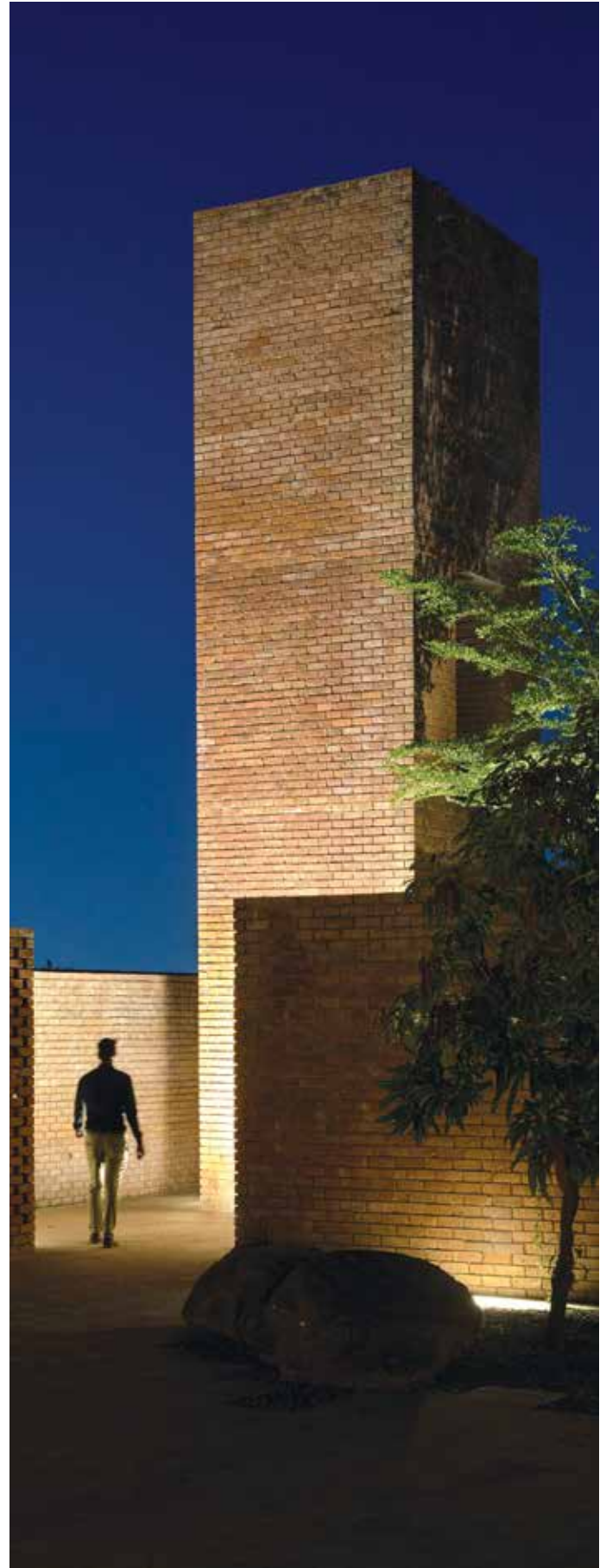


Figure 10: The modern stambh landmark cutting a monumental silhouette against the night sky.

random, natural interactions. The open spaces, free of doors and windows (except for washrooms), are designed to encourage community members to live in a more organic way, away from the distractions of modern consumerism and digital technology. This open design also nurtures a sense of shared identity, where people feel more connected to each other and their surroundings.

6. Celebration of slow, connected living: The clubhouse's design is a tribute to the slower, simpler ways of life in traditional Indian communities. Each plaza, pause and lane is an invitation to reflect on the past, to slow down and to appreciate the joy of shared, unhurried experiences. It brings a sense of nostalgia for a more connected, less materialistic lifestyle—a life where communities gather, celebrate together and engage with each other in a more genuine, meaningful way.

Streets are indeed much more than just physical paths; they are where life unfolds—where different stories, cultures and connections converge. They serve as the backdrop for shared experiences, friendships and memories—altogether bridging society.

All images courtesy: Studio VDGA



Ar. Deepak Gugarii graduated in 1998 and trained for six years under the late Ar. Christopher Charles Benninger. He founded Pune-based Studio VDGA in 2003, guided by a philosophy of experiential design. Today, the internationally recognised firm has projects across India, Vietnam, the Middle East and Africa, earning over 70 prestigious awards.
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School of Architecture

Mizoram University, Aizawl

By Ar. R. Lalrinzuala

Project cost: Rs. 17 crores

Built-up area: 4,280 sq.m.

Design Team: Ar Ruthi Lalruatfeli, Ar Dolly Lalchhantluangi, Ar Lalhriatpuii, K. Lalchhuanawma, Er. Lalthasanga, Ar. Lallawmawmi

Contractors: Engineering Projects India Ltd (EPI)

Site and Intent

This architecture school is envisioned as an inspiring learning environment that encourages aspiring students to stay grounded. By responding to the local context, informal learning spaces that spark dialogue and interaction are designed to nurture discovery and intellectual growth. The site is a 2-acre stretch of



Figure 1: View from faculty block. Stepped courts unify the blocks and blocks are kept low to allow views of the distant mountains.



Figure 2: Aerial view from SE showing the wooded surroundings. Main approach from the university hub is from the south.

rolling hills on the far edge of Mizoram University's campus, surrounded by forests. From the road, the site rises 1 metre before sloping down westward at a 14-degree incline. It offers a sweeping 180-degree view of the surrounding hills. The climate is humid sub-tropical, with moderately hot summers and cool winters. Annual rainfall ranges from 1800–2150 mm and cool breezes prevail throughout the year.

Built Form – Response to Topography and Climate

The design seeks to preserve the natural terrain, embedding the building into the landscape with minimal disruption to the topography. To ensure the built form does not dominate, the program is expressed as a series of low-rise buildings arranged around a central quadrangle with several courtyards. A level difference of 8.7 metres between the entrance and the lowest court allows the blocks to cascade naturally down the slope. The resulting courtyards double as informal gathering areas and impromptu performance spaces. A cafeteria and student terrace anchor the quadrangle and remain visible from all blocks. The stepped layout also ensures uninterrupted views of the distant mountains.



Figure 3: Studio with views of the distant mountains. Ample natural light floods in from large windows and clerestory windows which also facilitating cross ventilation.



Figure 4: Ample verandah space outside the studios. Corridors and ramps run along the colonnade as well.



Figure 5: Ramps run along the verandah and connect the blocks and courtyards



Figure 6: Jury in the winter afternoon sun. The verandahs seem to float above the courts (Block C).



Figure 7: Deep verandahs and overhangs offer outdoor jury spaces even in the monsoon rains (Block A).

Cross-ventilation is prioritised given the sub-tropical climate and persistent cool breezes. The blocks are spaced apart to allow airflow through their intersections and all rooms are cross-ventilated with openings on opposite walls. Bridges and open corridors knit the blocks together while the courts are linked by meandering stairs and ramps, offering students multiple pathways around the campus.

To echo the surrounding hills, the buildings are of sloping roofs with muted light grey CGI sheets. This reflects mountain hues without overwhelming the landscape. A 25 mm insulation layer minimises heat gain. Deep eaves (1.2 m–2 m) shield the buildings from heavy rains. Gutters are recessed within the roof rather than placed at the edge. This creates a sharper profile and the illusion that it lightly floats above the structure—mirroring the flowing terrain. Thin steel columns supporting the verandahs and corridors reinforce this sense of lightness. Rainwater is harvested from the roofs into a 1 lakh litre storage tank, supplementing the water supply.

Studio Concept

Each student batch is housed in a cluster comprising a 12m × 8.5m studio, a 6m × 8.5m classroom and toilets. Studios open to deep verandahs via large sliding windows, while clerestory windows boost daylight and cross ventilation. Below the clerestory line, additional windows open onto wide verandahs



Figure 8: Roof forms and colour echo the distant hills.

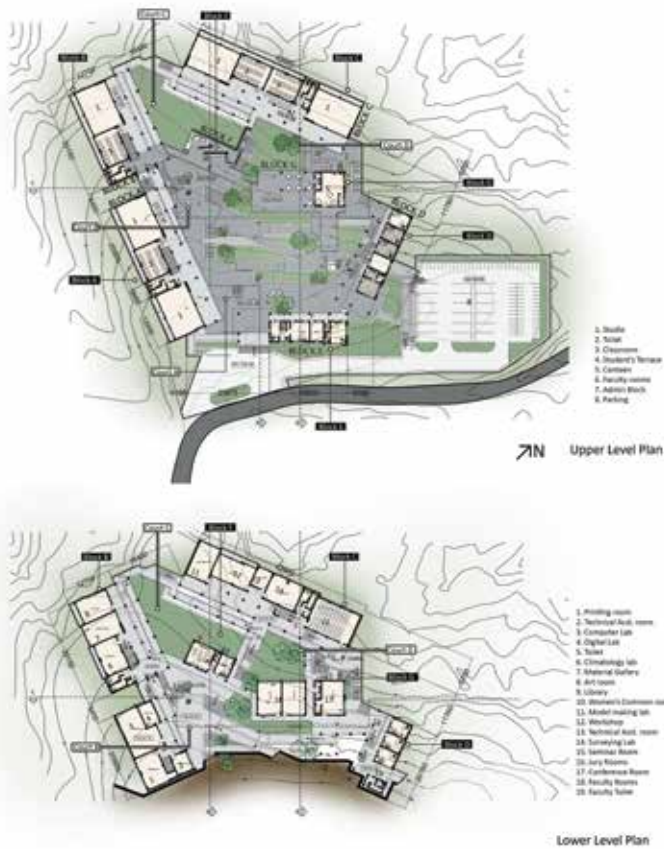


Figure 9: Floor plans



Figure 10: Sections

and circulation corridors. These transitional verandahs encourage observation, loitering and peer interaction without obstructing circulation. This spatial arrangement fosters openness, collaboration and holistic development for students.

Material Palette

Construction largely employs local materials and labour - RCC frame structure with brick masonry for civil works, steel works such as roof frames and railings of MS steel sections. Windows are anodised aluminium sections with clear glass; door frames of locally available timber and door shutters of marine plywood. Roofs are of 0.5 mm thick pre-coated corrugated steel, with 25 mm thick insulation sheets. Interior floors are matte-finish full-body vitrified tiles and courtyards are paved with Kota stone with alternating polished and non-polished surfaces for best traction in rains.

The design harnesses natural light and reduces the need for artificial lighting. Passive cooling through ventilation and insulation eliminates the need for air-conditioning. Rainwater harvesting alleviates pressure on municipal water resources.

All images courtesy author



Ar. Lalrinzuala Ralte founded Catalyst Architecture in Mizoram 25 years ago. Inspired by the sub-tropical state's rolling hills, rugged terrain, prevailing cool breezes and abundant rainfall, he has developed context-responsive architecture that integrates with natural and urban settings. Supported by a passionate team, the studio creates spaces that embrace landscapes, frame scenic views and offer refuge within verdant surroundings or bustling urban areas.

Email: catalyst.ar@gmail.com

Stepped Well House

By Ar. Avinash Ankalge, Bengaluru

The Stepped Well House draws inspiration from the dense, organic neighbourhoods of Bangalore, where homes evolve over time to suit narrow sites and compact conditions rather than being designed by architects. In these spaces, staircases, originally intended for access, have transformed into dynamic, interactive areas that integrate greenery and landscape, shaping the character of the dwelling.

This design approach focuses on activating transitional spaces, converting staircases into vibrant, multi-functional zones. The site, located in northern Bangalore adjacent to the veterinary college park, measures 51 feet by 40 feet and faces the northeast

corner. The east side opens to the lush landscapes of the veterinary college park and agricultural fields, while the north side is buffered from the road by three large Honge (Pongamia Pinnata) trees.

The core design strategy revolves around framing and capturing views of the park and trees at every level. Living spaces are oriented toward the north and east, while service areas are placed on the southwest side to create a buffer from neighbouring houses. A stepped, cascading section from east to west establishes both visual and physical connections to the landscape. The living areas, kitchen and bedroom balconies open to the adjacent park, while

33



Image 1: Exterior view- cascading landscaped terraces at every level merging into the existing Pongamia tree foliage, becoming a part of existing lush green context.



Image 2: Cascading staircase connects at 5-foot split-level. This arrangement minimises the sense of continuous stair climbing, introducing pause points through large tree courts with sit-out areas between bedrooms. These mid-landing spaces encourage interaction and offer varying perspectives, contributing to a sense of Openness.



Image 3: Looking from the son's bedroom attached study area, skylights flooding speckled light over the trees from above, with cascading terraces.



Image 4: The green terraces are multiplied internally to become extensions of living and bedroom spaces, offering a seamless transition between indoor and outdoor living.



Image 5: At every level, the 5 feet level mid-landing spaces encourage interaction and offer varying perspectives, contributing to a sense of openness and capture the glimpses of the adjoining veterinary college park.

formal and informal living spaces face the three Honge trees, offering a welcoming experience upon entry. A stepped amphitheatre within the living areas serves as a sit-out space with integrated greenery, enhancing interaction and comfort.



Image 6: Strategically placed skylights illuminate overlapping volumes, ensuring controlled lighting and supporting plant growth at every level. This seamless integration of light, greenery and spatial design results in a home that is both architecturally distinct and deeply connected to its natural surroundings.



Image 7: View from the daughter's bedroom - split verandah level acts as a pause point connecting the dining, kitchen and the outside existing landscape on the south-east side.

The house follows a 5-foot split-level design, transitioning from the living area to the kitchen and then to the children's and master bedrooms. This arrangement minimizes the sense of continuous stair climbing, introducing pause points through large tree courts with sit-out areas between bedrooms. These mid-landing spaces encourage interaction and offer varying perspectives, contributing to a sense of openness. Each bedroom opens onto a terrace facing east or north, capturing views of the open park. Morning light filters through the kitchen, dining area and all bedrooms, enhancing the interiors. The stepped, split-level verandahs at each bedroom level create an extended ground-floor effect, reducing the perception of vertical movement and offering personalised spaces for daily activities.

The rooftop features a stepped amphitheatre designed for sunset views and multipurpose gatherings, with seating levels integrated into a landscaped setting. From the terraces, residents can enjoy panoramic views of the park and surrounding agricultural fields.



Image 8: View from main entry living space, a stepped amphitheatre within the living areas serves as a sit-out space with integrated greenery, enhancing interaction to the dining and kitchen areas.



Image 9: View from the dining, kitchen and pooja room, framing the adjoining veterinary college park landscape.



Image 10: View from the east-facing master bedroom looking towards the adjoining veterinary college park landscape, the morning sunlight enters the bedroom.

Materially, the house is defined by 3-inch bands of exposed concrete formed with shuttered planks, creating a horizontal scale that visually breaks down the facade while integrating landscape elements. Lime plaster is used throughout the interiors, lending a warm, cohesive atmosphere that highlights the purity of the spaces. Strategically placed skylights illuminate overlapping volumes, ensuring controlled lighting and supporting plant growth at every level. This seamless integration of light, greenery and spatial design results in a home that is both architecturally distinct and deeply connected to its natural surroundings.

All images courtesy: Author



Ar. Avinash Ankalge was born in Pune and graduated from Dr. D. Y. Patil College of Architecture, Pune, Maharashtra. After graduation he worked under renowned Architect Sanjay Mohe in Mindspace, Bangalore based firm from 2010-2019. 'A Threshold' was formed in 2019 in Bangalore by Avinash. It is a multidisciplinary design firm, having experience in handling residences, institutions, housing and hospitality projects, with current partners Avinash Ankalge and Harshith Nayak.
Email: avinash@athreshold.com

Figured Ground

By Ar. Praveen Bavadekar, Belgaum

Can a building have two faces? Can it have two fronts and no back? How does a building recede into the background, from one side and yet assert itself as a strong singular presence from the other? How does one reconcile seeming opposites in a single structure? The Indoor Sports Arena in KLE Technological University tries to answer these and other questions that emanated from the brief and is an attempt to strike a balance between such dichotomies as architecture and landscape, figure and ground, as well as the city and the campus.

The site was one of the last residual spaces of green lung space in a 100-acre University Campus that also abutted one of the main arterial roads of the surrounding city.

In a way, the site had two fronts - the front along a busy 6-lane intercity road and another face towards the campus with its rolling greens interspersed with institutional buildings and cut off from the busy vehicular traffic just outside.

Two divergent views emerged from the clients. While the Chancellor of the University was sceptical of having an inward facing sports facility at the front of the campus, thus blocking the view of the campus from the city and also compromising on the last tract of untouched green spaces in the campus, the Vice Chancellor was a strong proponent of having the building in this location as it had the potential to redefine the street outside and provide an opportunity to assert the presence of the university in the city. This would also be a facility built to commemorate 75 years of the university and thus should have a prominent place in the campus and the city.

These two contradictory views, one of absence and the other of an assertive presence, were taken as a framework to generate the design.

The site had a natural gradient, with the city road being on the lower side and the university slowly rising to about 4 meters and beyond above this road.

This sectional shift allowed the building to sink into the ground from the campus side while also emerging as a distinct and formal structure from the city side.

Sports facilities have to contend with a highly restrictive volumetric spatiality that is often dictated and prescribed by codes and rule books. Every sport needs spaces that leave little or no room for interpretation in form and size and thus, in this case too, the interior spaces were dictated by the sports facilities it is supposed to house.

This created large volumes of space that could potentially overpower the site and sinking these into the ground allowed the landscape to take precedence over the building from the campus side.

The Basketball and Badminton courts are identified as the two anchor spaces in this mix of programs as they require larger spans and high ceilings. These are



Image 1: The sports arena as seen from the top, integrating landscape and architecture.



Image 2: Interior view showing ping pong courts and squash court.

clubbed together as a central court around which all other facilities including the ancillary ones such as changing rooms and toilets are arranged. Spectator stands along the longer sides of the central courts are meant to accommodate 1300 spectators. The building is also meant to serve as a convocation hall when close to 3500 people would be seated in the central courts and its two flanking stands.

The central courts are capped by a pyramidal steel roof, while the periphery has a green roof that melds into the campus landscape. The edges of the building are thus allowed to blur into the landscape and the figure merges into the ground.

The building is accessed from the campus through two main plazas - the east plaza and the west plaza as well as from under the roof truss in the central courts area from the north.



Image 3: The city side façade is a dynamic form that responds to the main street.



Image 4: The building in its context. The duality of the site, with the city on one side and the campus on the other.



Image 5: The upturned corner elevates the mass from the city side.

The east and west plazas, as well as the north plaza are designed around existing trees and contours and they act as spaces that extend the campus social life to engulf around and even atop the facility. The building exhibits two different faces from the interior and exterior.

Whereas from the exterior, it is an engagement with the ground plane and an extension of the campus urban space, from the inside it is an inward-looking space that responds to the program.

Invariably, sports facilities in a university are used by only the very few who actually play those sports and as a result, these buildings do not engage with the larger community. This is sought to be countered by treating the building as much as an urban and a landscape intervention

as it is an interior scape for an active lifestyle and competitive sports. This is achieved by creating plazas, pathways and gardens that engulf the building and make it indistinguishable from the campus greens.

From the arterial road of the city, the building is seen as an imposing facade of zinc cladding and glass that



Image 6: The building allows for plazas and courts to be formed around it.

emerges out of the ground from the east side and almost appears to float above the landscape on the west end. The west end is upturned as the building turns the corner and this gives a sense of levitation to the form. This upturned corner with its deep red



Image 7: The central multi-court that anchors the design.



Image 8: The building disappears into the landscape from the campus side.

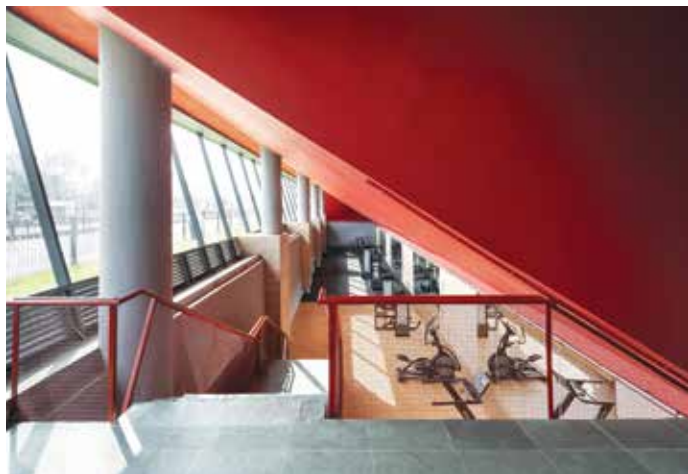


Image 9: The gym tucked under the stadium seating.



Image 10: The stepped gym that accommodates the upturned corner.

underside creates its own nook underneath, an interstitial social space that users can script in their own way.

The building, when not submerged in the green scape, is clad in zinc sheeting that creates a dark looming presence that accentuates its stark form and also animates it as it catches the sun at various times of the day. The playful interiors of this dark shadowy form are hinted by the touches of red that accentuate the entrances and some undersides of the spaces that reveal themselves ever so slightly.

The building firmly establishes itself as a presence on the road and yet seems to disappear in the ground as one enters the campus.

The sports arena is a building which revels in the complexity of its brief and its urban siting, becoming a space that is at once simple in layout, yet layered spatially.

All images courtesy: Author



Ar. Praveen Bavadekar graduated from Bangalore University, and further completed his Master of Architecture at AA in London. He founded Thirdspace Architecture Studio in 2002 and Namrata Betigiri later joined the studio as a Principal Architect and Partner. The studio is now based out of Belagavi and Pune. Praveen's praxis embodies a rigorous process of inquiry, relying less on intuition and calling for a more inquisitive approach. He also engages with pedagogy in several architecture schools. His studio has been a fertile learning ground for numerous architects who are now tracing their own trajectories.

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Toit, Bagmane

Brewing Spaces, Building Communities

Ar. Sunanda A.J.R.

Set within the dense, high-rise context of Bagmane Constellation Tech Park in Bangalore, Toit Bagmane reclaims an underutilised multi-court and transforms it into a vibrant taproom that blends architecture, landscape and culture. The project is envisioned as more than a hospitality space - it is a spatial narrative that weaves together crafted brews, curated art and community. The design strikes a careful balance between Toit's established identity and the unique context of its setting, creating a warm and inviting atmosphere where every corner encourages exploration. Layered volumes, open terraces and immersive garden pockets allow the architecture to spill out organically into its surroundings, making the indoors and outdoors feel continuous. A sculptural staircase anchors the heart of the space, while mezzanine-level nooks provide quieter, elevated views over the buzzing activity below. The structure's light-filled core is defined by a dramatic pitched roof split by a central skylight - an architectural spine that animates the space with natural light throughout the day.

The material palette is deliberately restrained to allow the spatial textures and design elements to take the spotlight. The primary structure is a steel framework, developed in collaboration with a renowned structural engineer. This exposed skeleton supports a dramatic roofscape that floats above the taproom, made up of Mangalore tiles with glass inserts that bring in filtered daylight.

Warmth is brought into the interiors through the use of tactile materials - exposed brick walls in a monochrome tone, wooden ceiling panels inspired by brewing barrels and a fishbone-patterned terracotta tile floor with bold black outlining. The flooring transitions subtly between hexagonal tiles and



Image 1: Brewing Spaces, Building Communities



42

Image 2: An open beer garden woven through landscape and light, where the glowing bar spine anchors the entire evening



Image 3: A soaring volume wrapped in warmth, texture and filtered light

wooden planks, guiding movement while delineating space without hard boundaries. All materials have been selected not only for their aesthetic and tactile quality but also for their durability and sustainability.

Skylight Spine: The pitched roof is split along its central axis by a skylight that acts as both a design feature and a light modulator. This spine creates a dynamic play of light and shadow, continuously transforming the interiors throughout the day.



Image 4: An intimate rhythm of glow, shadow and craft - framed within the in and out bar



Image 5: Where hex meets grain - floating and fluted forms guide the journey



Image 6: A garden within the bay windows blur the line between built and blooming



Image 7: Layered textures - vintage accent define a timeless pub atmosphere



Image 8: A sun dappled extension of the taproom, anchored by the open pizzeria



Image 9: Terrace tales - framed skylights and patterned floors that guide the gaze

Glass-filled Mangalore Tiles: These tiles are strategically embedded into the roofscape to filter natural light in a dappled manner, enhancing the ambience while reducing heat and glare.

Sculptural Staircase and Mezzanine Nooks: The staircase is not just functional - it's a focal point that connects levels while doubling as an artful sculptural insert. Elevated mezzanine seating zones provide patrons with secluded corners and layered views.

In-and-Out Bar and Garden Integration: The bar extends into the landscape, blurring boundaries and reinforcing the idea of indoor-outdoor fluidity.



Image 10: Kudix watches over a cozy corner - stained glass story telling meets warm brick

Pocket gardens and planters are integrated into the architecture, ensuring greenery is never out of sight.

Textural Interiors and Artistic Curation: The taproom features custom furniture, curated artwork and lush greenery, all set against a restrained material palette that lets these expressive elements shine - creating a space that feels rich, immersive and unmistakably Toit.

All images courtesy author



Ar. Sunanda A.J.R., an architect, dreamer and LEED Accredited Professional, has shaped the spirit of Mistry Architects Design Collective since 1994. A graduate of University of Kerala, she believes architecture is a living dialogue between people, place and purpose. Rooted in sustainability and inspired by travel, yoga and reflection, her work embodies quiet sensitivity, enduring creativity and a deep joy in collaboration.
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A Modest House in 'Pol' Neighbourhood, Ahmedabad

By Ar. Caitanya Patel, Ar. Jay Vadodaria, Ar. Parth Patel and Ar. Vivek Gajjar

Location: Vasna gam, opposite Ramji Mandir Chowk, Vasna, Ahmedabad

Firm: Inpractice

Client: Mr. Nitin Patel

Site area: 41 Sq. Mt (443 Sq. Ft.)

Built-up area: 76 Sq. Mt (821 Sq. Ft.)

Structural consultant: Structura - Saumya Shah

Carpentry: Rachna Interior - Manoj Mistry

Contractor: K. J. Shah - Vatsal Shah

Photography accreditation: Vivek Eadara, Caitanya Patel

Homes are often described as beautiful, comfortable or even luxurious, but when the aim is to achieve comfort in compact spaces that is when it can be described as clever. Passing through the narrow *galis*, with rather traditional-looking homes, one observes the people who live here. They are chatting on the *otla*, an outdoor sitting slab and on many occasions, one can see the hustle of everyday life in these homes from the street. This neighbourhood in Ahmedabad has all aspects of a traditional pol but is quickly changing with time while being rooted in ideas of community living and the interaction of homes with the street. These continue to be the binding thread in its urban fabric.

Ahmedabad has served as the workshop for Indian Modernism. It is also a city synonymous with dense settlements in a *pol*, a community-based housing settlement prevalent in western India, particularly Gujarat. *The Clever House*, in terms of its materiality, experiences and just in its existential honesty, is



Image 1: House and the 'Pol' context

Source: Inpractice



Image 2: West Facade

Source: Vivek Eadara

the coming together of these two worlds that have coexisted for many decades in Ahmedabad.

In the middle of this chaos that is life, stands this single-storey house replacing a dilapidated structure



Image 3: North Facade
Source: Vivek Eadara



Image 4: South Facade
Source: Vivek Eadara

46

with an exposed concrete monolith that cuts, folds and bends to articulate the facades. Its functional robustness emerges from the fabric of the resident's life and everyday routines and is reminiscent of community-driven living in *pols*. Unapologetically and in striking contradiction with its surroundings, it resonates amicably with the scale of the neighbourhood as a small urban insert.

A softened curvilinear corner at the North-Western end marks the humble entrance to this home. As one enters, a clear open space is bathing in the warm embrace of the sun which manages to peek in from the skylights and deeply recessed windows placed at different levels on each side to allow a connection to the street, without compromising the privacy of the room.

The windows on the northern wall catch the high sun and the ones on the western wall form a rooted connection with the bustling life on the street. On this side, along the length of the house, runs an *otla*, a traditional low-heightened platform - a pause in the rather astir part of the town.

The living, washroom and cooking spaces on the ground floor are arranged in a linear spread, one after the other. These spaces merge into one another in the absence of a defining physical barrier



Image 5: Interflow of spaces for space optimisation
Source: Vivek Eadara

or a threshold, enhancing the character of versatility to a single space that can accommodate multiple functions. The deep recesses in fenestrations act as ingeniously crafted storage spaces in the interior and sitting spaces for the exterior.

The furniture, particularly the sitting units, frame the living space against the backdrop of an artistic staircase - each step an independent piece of metal finished in wood, with parts of the space, covered in bright yellow below, used for sitting, storage or even



Image 6: Staircase as an anchor object in space

Source: Vivek Eadara



Image 9: Central anchor space

Source: Vivek Eadara



Image 7: Interplay of light, shadow and Volumes

Source: Vivek Eadara



Image 8: Re-interpretation of traditional courtyard

Source: Caitanya Patel

display. A peek into what lies upstairs brings the feel of a courtyard. But no, this isn't a courtyard, yet it is one.

On reaching the upper floor, a single bedroom space and bathroom cover the entire floor, overlooking the expansive and lively living space below. Off-centric



Image 10: Reading nook detail

Source: Vivek Eadara

fenestrations, while flooding the space with ambient light, also frame the community centre nearby. In the absence of opaque boundaries, only the furniture conveys the extent of the transition space, leading to a small bridge serving as a reading nook, with a bookcase and a reading ledge, showered on with light by the open skylight.

The bridge leads to a small terrace, disconnected from the home, barring a small peep window. It is the outdoors of this small family unit. From here, an exterior staircase, finished in concrete, leads up to the upper terrace granting a view of the lower terrace and towering above the radiant neighbourhood. Both the floors are open, breathing into the artistically ingress of light from different ends. Intricate details in elements like the staircase, spouts, grills, doors and even the furniture, juxtapose and balance the solidity of exposed concrete.

The play of light and shadow frames each part of this home, enhancing its old-world charm of *pol* houses, presented with a new outlook to represent the time it was built in and the aspirations of the people who reside in it.



'Inpractice' is appropriating traditional ways of living in the present time by means of materials, light and spatial explorations, where 'in' is symbolic of the present time and 'practice' is the method to do architecture. Founded by Caitanya, Jay, Parth and Vivek, 'inpractice' is a design studio which focuses on a non-linear design approach with inventive solutions. For each project, the inquiry starts with what lies at the core of the project's purpose; shapes its relevance in time with reference to its architectural, economic and social value. The process involves rigorous research for innovative material applications. 'Light' is the primal element at the core of the practice. We often say - 'Architecture without Light is like Sangeet without Raga'

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The Science-Soil Nexus

Redefining Viticulture Ecosystem

By Ms. Pornima Kotecha

Design Brief

How can agricultural research truly make a difference if it remains distant from the everyday realities of the field?

The thesis explores the critical gap between scientific research in laboratories (in this case the NRCG i.e. National Research Center for Grapes) and practical fieldwork on farms—specifically within the context of viticulture in Tasgaon town. It challenges conventional models of agricultural support, reimagining a system that is not only more accessible but also deeply rooted in local realities. At its core, the thesis aims to redefine the agricultural ecosystem by weaving together innovation, empowerment and sustainability into a single, cohesive framework—benefiting not only the farmer but every individual who relies on the food and resources they produce.

The thesis proposes to decentralise research infrastructure to make it more accessible and responsive; interlinks it with other initiatives to ensure cohesion and continuity; and integrates it into the local context to promote participation and adaptability. Natural systems are designed and embedded within built spaces not as separate elements but as functional extensions of daily activity. Materials are locally sourced and drawn from the site's character, but the architectural expression avoids imitation. Instead, it offers a

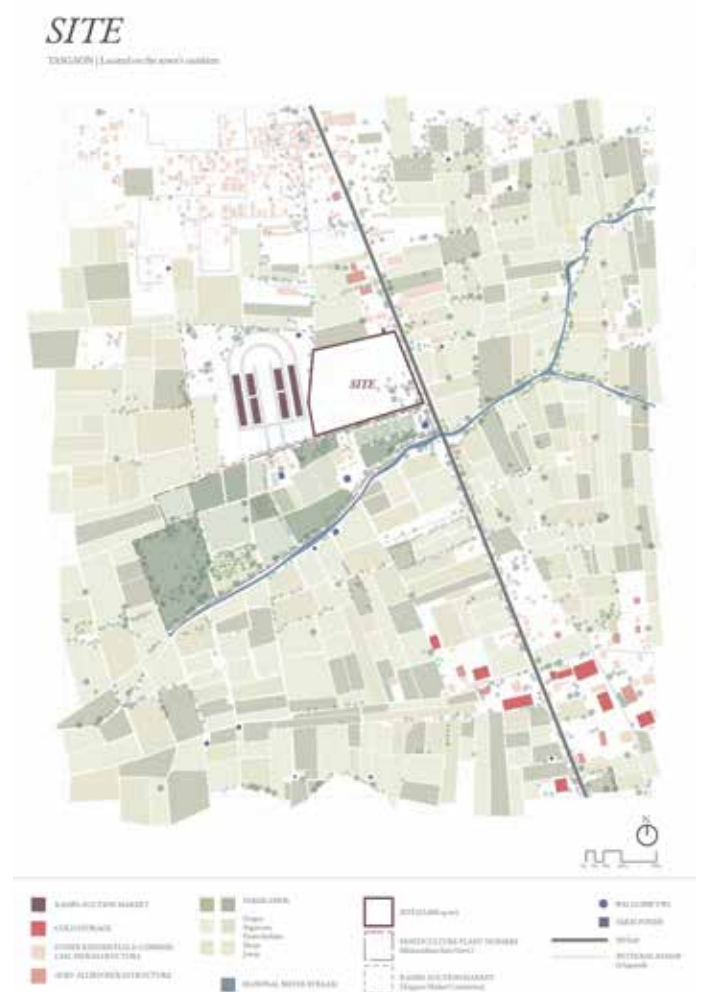


Figure 1: Master Site Plan
Source: Author

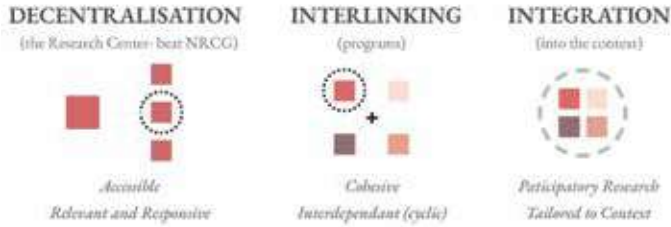


Figure 2: Intent Diagram
Source: Author

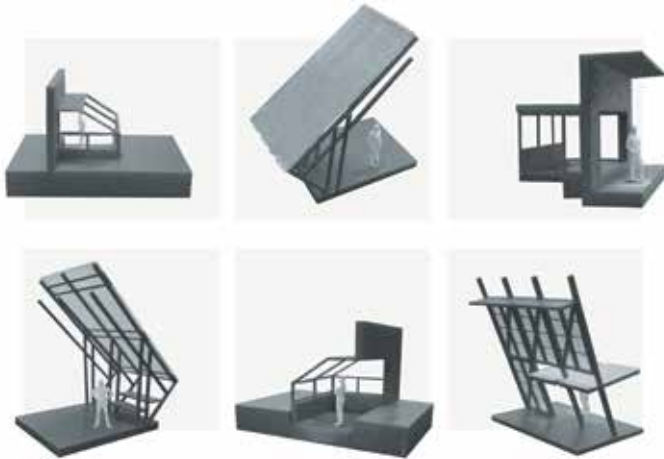


Figure 3: Models Exploring Threshold Conditions
Source: Author

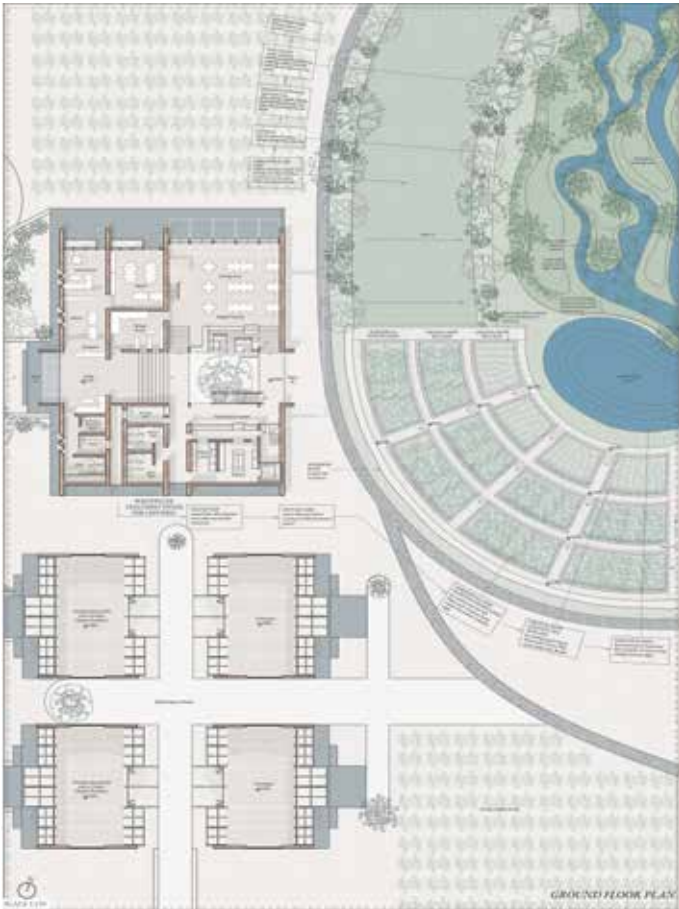


Figure 4: Zone 1 Plan (1 of 3)
Source: Author

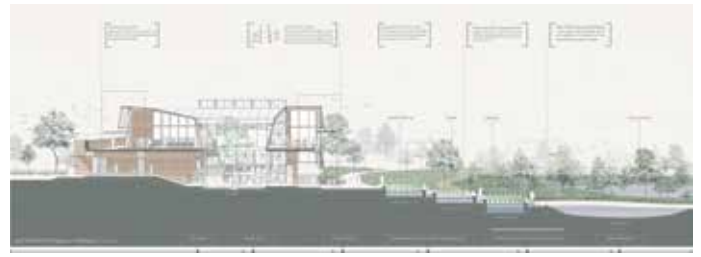


Figure 5: Section through the Admin and Canteen Block with Integrated Wetlands
Source: Author



Figure 6: Section through the Workshop, Bio-swale, Library and Greenhouse for Soiless Cultivation
Source: Author

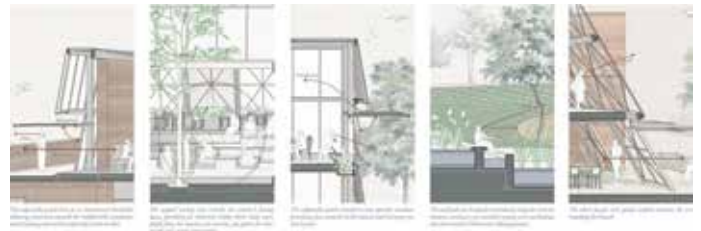


Figure 7: Spatial Details
Source: Author



Figure 8: Spatial Details
Source: Author



Figure 9: 3D-Printed Sectional Model of the Library and Greenhouse for Soiless Cultivation
Source: Author



Figure 10: 3D-Printed Partial Sectional Model Showing Structural Assembly and Light

Source: Author

refreshed identity—grounded in context yet open to innovation. Ultimately, it's about creating a bridge—between science and soil, between people and place.



Pornima Kotecha is a multidisciplinary designer and independent architectural designer whose work explores the intersection of space, systems, materiality and research. Driven by curiosity and critical inquiry, her approach engages architecture as both a spatial and investigative medium- one that enables dialogue between people, environments and processes of making. Her interests lie in interdisciplinary modes of thinking and making, shaped through observation, experimentation and continuous exploration.

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Storii by ITC Hotels, Devasom

The Wellness Retreat

By Ar. Vivek Singh Rathore and Ar. Anuradha Puri Rathore

PROJECT OVERVIEW:

Built Area: 22000 sq.ft.

Land area: 1 acre

Eastern India is a land of water bodies, lakes, ponds and rivers. The outskirts of Kolkata is dotted with over 13 % of registered water bodies. The human body is more than 2/3rd of the water element. The balance of elements, essentially water, is a key decider of our wellness.

Attributes of water and its connection to our sensory responses is key to wellness.

As an ever-growing city, Kolkata is a home to many physical and psychological ailments. This project - A wellness retreat aims in restoring the physical, mental and spiritual (body, mind and soul) balance through hospitality and care.

This wellness retreat has three essential components in its programme - The spa, The Yogashala and The Salon. The site was carved out in a peninsular



Figure 1: Drone view of the project

profile surrounded by 5 acres of water body (lake). Located within a Holiday - Home Campus of 90 acres, a component of it has 24 key guest blocks for staycation guests and who engage themselves in longer wellness programs.

A total of 14 key treatment areas comprise of western treatment (massages), ayurveda treatment (massages), hydrotherapy, mud/Dhara therapy, the Yogashala, the kriya shala and the beauty treatments (salon).

“The process of Wellness translates from soul to mind and then to body”.

Here is a design which activates your muffed sensitivities and induces us to perceive even the subtle responses performed in the treatment with distinct clarity.

DESIGN PHILOSOPHY: A series of experiential courtyard was developed for the design with meandering narrow walkways linking introvertedly planned, disintegrated blocks/modules.

ARCHITECTURE OF THE SENSES: The project is envisioned as a five-sense experience where landscape, water, fragrance, texture, daylight and sound work together to reactivate muted sensory responses.

THE 5 SENSE DESIGN TRULY!

When the guest walks through multiple courts (each designed scientifically to activate our 5 sensory perceptions), the transitory experiences, employing water and nature in true Biophilic settings, calms us instinctively.

The highs and lows, the stillness and the turbulence, light and darkness etc activate our deeper/ remote cells of the neuro-cortex - those which remain dormant in the urban environment.

Daylight, natural ventilation, textures, Colours, fragrances, the flowing architectural form, aromas of earth, sounds of the winds and much more all tied up in the singularity of terracotta shade is rejuvenating.

THE 6th SENSE ARCHITECTURE

The tangible should give way to the intangible.

The design includes prescriptions of Vedic architecture to induce positive energy pockets (courtyards) for health and vitality.

Vault shell roof to cast off fluctuating EMFs from HT power grid, No RCC beam grid network in the corridors to provide smooth flow of energy, dark pool proportions more than 1:7 to absorb negative environmental energies etc are few such prescriptions.

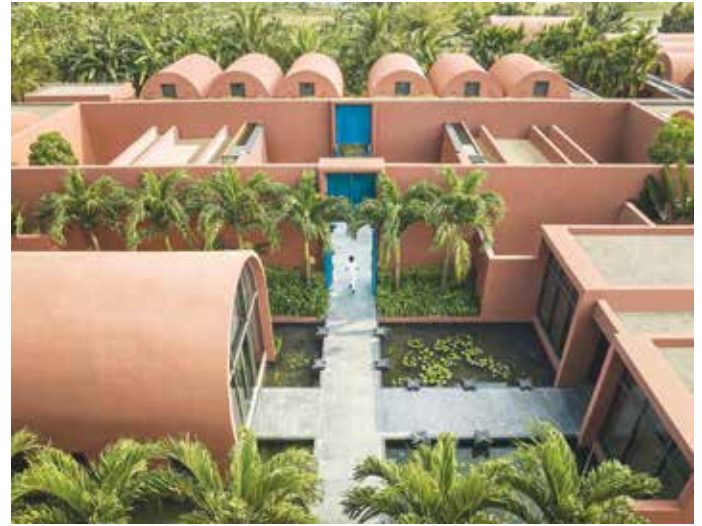


Figure 2: Through Layered Courtyards, Reflective Water Bodies and Framed Connections with Nature

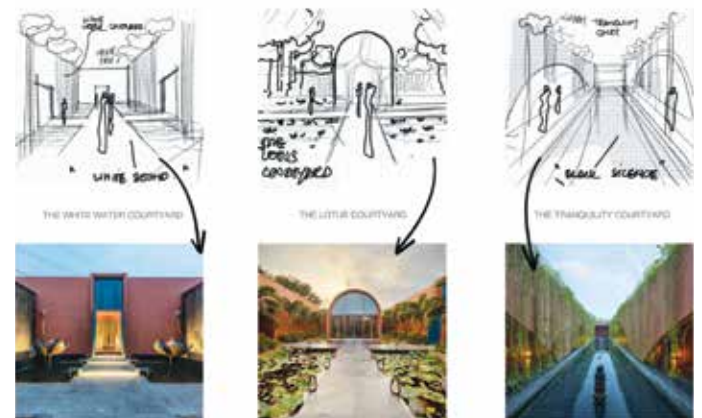


Figure 3: Welcome Court with Lotus Pond / Through palms, ponds and framed vistas.



Figure 4: Nature Interpreted Through Art / Our Relationships with the Key Elements, Is the Key to Our Wellness

Interesting use of Artworks from spiritual India subtly celebrating the concepts of oneness and inclusivity builds up a positive environment pulsating HOPE in wellness hospitality.

RESPONSE TO CONTEXT:

-Cut and fill within the site. The cut areas were converted to build a lake around the development and filling ensured raising the low-lying site condition.

-Construction was a single level development using RCC shell method. A single module in MS helped in achieving 60 percent of the development by sheer repetition.

-Being a remote site, all labour was a locally sourced

DESIGN CONSIDERATIONS:

- 1) Proximity of HT lines - Due to this, no construction was feasible on the site within a certain offset distance (approx. 35M) from the centerline of HT cables.
- 2) Through cut and fill the site was converted into a Peninsular Appendage, with the water body developed artificially.
- 3) Prior to the built intervention, the site was surrounded by a water body on its 3 front edges, with a narrow entry on the rear edge.
- 4) The intervention was an insert in the existing Bungalow masterplan.

WHY THE VAULT SHAPE:

VAULT AS A 'SAFE SHELL': Because of the existing power lines on site, the EMF interferences were minimised by the Vault shape.

VAULT AS 'REFUGE': Vault facilitates the creation of extensive interiors (Spacious, column/support free unobstructed areas).

VAULT AS A 'RESONANT': The curvature of vaults helps to diffuse sound waves, enhancing acoustics. Vaulted profiles enhance the quality of sound by reducing reverberation and improve speech intelligibility.

The noise from the high traffic is muffled by the plantation and deflected by the wall profile. The close vegetation offers Solar shading in this case.

ENERGY EFFICIENCY: Vaults can facilitate natural ventilation and cooling, reducing reliance on mechanical systems.

SPATIAL LAYERING AND ZONING

- Two extreme bandwidth of experiences were layered by implementing narrow circulation pathways and connecting introvertedly planned, disengaged blocks. This approach aimed at providing varying spatial and experiential qualities within the built environment.



Figure 5: Approach to the Tranquillity Court / Where thresholds become experiences.

- The design was planned with a focus on cardinal principles. Taking into account the direction the solar orientations and the low of the wind, the modules were laid out in a particular fashion, giving rise to courtyards.
- The courtyards were designed with curvilinear



Figure 6: The Tranquillity Court and Pool / An Architecture for The Soul, Mind and Body - A Design That Articulates Nothingness!



Figure 7: Meditating at the Tranquillity Court / The Geometric Proportions in the Physical Realm Have the Ability to Contain the Metaphysical (C O S M I C)



Figure 8: Betel Palm Court / The Colour of Earth, The Aroma of Earth and The Songs of Earth - Live Inclusive

profiles, chosen deliberately for the visually soothing qualities. Because of their gentle and flowing forms, they evoke a sense of harmony and relaxation.

- The deliberate arrangement of open spaces/voids between modules and the careful integration of both open(courtyards) and closed volumes contribute to the effective facilitation of cross ventilation. By strategically positioning the modules and allowing for ample gaps between them, air currents are encouraged to flow freely through the premises.

A SUSTAINABLE AND GREEN DESIGN:

The microclimate (through passive cooling strategies and planned natural circulations) benefits the common area to be 100% non-air conditioned. 100% Daylight harvesting in the interior spaces and common spaces etc has reduced the power requirements to less than 50% as compared to conventional systems. The design allows for many spa activities to be performed in semi covered areas and open areas connecting guests with the existing flora and fauna - the act of instinctive wellness.

It is a Green Design in true sense! At the site around 88 trees have been planted carefully curated to invite the fauna species driven out of the urban environment - an act of inclusive existence!

ART AND ARCHITECTURE:

We seek happiness and this lies in our perspective



Figure 9: The Welcome Lounge / Wellness Demands That Interiors and Exteriors Establish a Dialogue - An Insignia of Purity



Figure 10: Floor-Mounted Luminaires Emulating the Flicker of Traditional Oil Lamps

(seeing) of life. The solution lies in our nation's strength - spiritual wisdom.

Art has a universal code, beyond languages. It has preserved and professed spirituality and its values across ages in its various forms and mediums. Art has been the best source of instilling wisdom, hope and happiness. It is a connect to our mind and soul. By careful and sensible installation of art/artefacts in space we added in furtherance of this intent making it more palatable and contextual to the mood.

The medium is terracotta and metal, regional to Bengal and engaging local artists is an ethical practice too.

ILLUMINATION AND DESIGN:

The orchestration of changing shadow profiles in the day gives way to a meditative evening and sensual night time. The intent is to simulate the flickering lamp effect, with no light fixtures mounted either on the ceiling or on the wall.

Attention has been taken to ensure moonlight is well reflected over dark water bodies (devoid of underwater illumination) creating a surreal blue simmer on the walls.

There lies a human connect with lamp - it is a timeless representation of positivity - the divinity.

The floor mounted fixtures emulating oil lamps were made. All fixtures are dimmer control (< 2200k) and LED at source. A conscious call is to have the light in patterns, as caustic waves etc so as not to attract insects and flies.

INTERIOR ARCHITECTURE:

In here Interior design is an alter ego of architecture design in a neutral palette of shell white vitality! - The all-inclusive shade of light.

The approach to the interiors is to engage the architectural form and add a layer of detail inspired from the ripples of water, inspired motifs of Bengal jasmine (the local flower), the folds of lake surface etc. The subtle reliefs on the vault ceiling bring a calming meditative mood.

Timber and anti-skid tiles on floor, low relief stucco finish on the walls compliment the textures of nature around.

Dual curtain system, sheer for daylight and black outs, give guests the desired options for experience.

Indian Minimalism is the intended interior expression.

MATERIALITY

- The strong monochromatic architectural rendering of terracotta is complimented by a monochromatic treatment of interiors - a neutral palette of shell- white vitality! - the all-inclusive shade of light
- Wellness is best related to biophilic design. Inspirations from Bengal jasmine (the local BELI flower) in motifs, relief work subtly connects to the imageries of nature.
- Water being dominant in design, ripples, folds and flutes becomes an important take into Interior design.
- Materiality is natural - timber, stone, lime coats, natural fabrics, rattan and metal.
- The larger narrative of 5 senses design intent was carried through preserving the impressions of changing daylight, views, induction of natural aromas, natural sounds and stillness.
- Prevent glare, daylight management using 2 layers of curtains, anti-skid flooring requirements, repetitive patterns on vaults to better acoustics, aesthetically engage the MEP installations, Low maintenance and resilient furniture design and many other important considerations were subtly resolved using simple design interventions.

INNOVATIVE MATERIALS USED IN THE PROJECT

Here it was important to use locally/common material innovatively and respond to the requirements of wellness.

Create an inspiring environment out of a left-over site adjacent to a HT line.

This ensured an apt response and minimal impact. RCC 100 mm shell construction using locally improvised MS shuttering was the only difficult part of construction.

THE LAST LAYER

Post pandemic, it is important we as humans connect and accept nature as a prescriptive order of life. The need to weave an experience of the body, mind and soul in our built environment is important.

This design explores the timeless concepts of open Indian courtyards in a realm of biophilia and Vedic sciences to create a wellness expression in hospitality architecture.

Less is really More!

All Images Courtesy: Vivek Singh Rathore, Mohsin Taha



Vivek Singh Rathore is a Partner and Design Principal at Salient and the Chairman at IGBC Kolkata Chapter. "Creation is nothing but a modification of our relationships." Guided by this philosophy, his work is rooted in cultural sensitivity, contextual relevance and a deep reverence for the environment and community. As the visionary founder of the multidisciplinary design studio Salient, established in 2005, he continues to shape architecture that serves society and the nation at large.
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Anuradha Puri Rathore is the founding Principal and Partner at Salient. She leads the studio's landscape practice with ecological depth, cultural sensitivity and technical precision, shaping award-winning environments that weave nature, community and Indian values into resilient, inclusive spaces.
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Commendation Award

Symphony in Space and Shadow

The Architectural Poetics of Tokaroun, Artist Residence, Santiniketan, West Bengal

Ar. Milon Dutta

Nestled in the cultural heartland of Santiniketan, West Bengal, Tokaroun stands as a profound testament to the dialogue between built form, art and the natural world. Designed as an artist's residence and personal gallery for the renowned Indian sculptor K.S. Radhakrishnan, the structure is far more than a mere repository for his monumental bronze works. It is a living, breathing canvas that internalises the overarching architectural and spiritual ethos of Santiniketan. Heavily influenced by Rabindranath Tagore's vision of an ashram-like environment where diverse cultures converge, Tokaroun orchestrates a harmonious blend of pan-Asian philosophies, local traditions and unpretentious modernism.

The Philosophy of Impermanence and Pause

At its core, Tokaroun defies the sterile perfection often sought in contemporary gallery design. Instead, the architecture embraces Wabi-sabi, the Japanese philosophy that finds beauty in transience, imperfection and the organic marks of time. This is palpably felt in the deliberate material palette: unplastered ceilings, exposed brick walls with humble, uneven grey textures and raw wood. The design does not merely tolerate the ageing process; it actively celebrates it, standing alongside gnarled native trees with weathered bark that were meticulously conserved during the site's planning.

Complementing this reverence for nature is the spatial realisation of "Ma", the Japanese concept of a gap, space or meaningful pause. This is brilliantly articulated through two bridges linking the exhibition spaces. Rather than rushing visitors

from one gallery to the next, these bridges serve as physical manifestations of "Ma", inviting spectators to decompress and reconnect with the tranquil greenery. It is an architectural exhalation, allowing the art to resonate in the silence of the surrounding landscape.



Figure 1: Ground Floor



Figure 2: First Floor

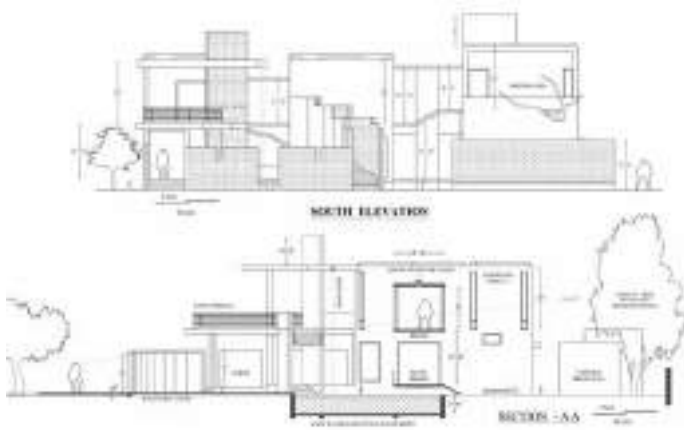


Figure 3: Elevation and Section

A Storyteller's Spatial Journey

To walk through Tokaroun is to engage with a storyteller's narrative of unfolding views. The boundary between exterior and interior is continually negotiated, beginning at the main gate, where an exposed brick wall with a rectangular opening sets the stage. From here, the building consciously obscures its full scale. Visitors are guided by a curved brick wall and onto helical wooden steps that hover over water. This aquatic pathway demands a slowing of pace, a "mind-tuning" exercise that detaches guests from the mundane and immerses them in a mystic corridor flanked by high brick walls, open only to the sky above.

The climax of this ascent is a view of a striking sculpture court, where filtered sunlight, or *komorebi*, paints transient *Alpana*, traditional floor art, in shadows at the entrance. The journey through the



Figure 4: Open Air Stage and Main Building in the Back Ground are Seen From the Entry Gate



Figure 5: The Zen Garden and Transparent Bridge Connecting Two Blocks in The Back Ground, the Branches of a Kadam Tree Emerging from the Opening of the Foundry Wall

three interconnected exhibition galleries on the first floor is guided not by harsh signage but by the sun itself. Arrow-shaped skylights cast literal directions onto the floor, creating a masterful integration of natural lighting that serves both functional and atmospheric purposes.

Materiality and Rootedness

Tokaroun's physical substance is deeply rooted in the soil of Bengal. Exposed brick walls, crafted from Ganges alluvial soil, are juxtaposed with minimalist grey cement and raw concrete. Local artisans and fabricators were engaged to forge the iron grills, handrails and helical staircase, reflecting an ethos of sustainability and local craftsmanship.

Perhaps the most poetic architectural detail is the massive, pivoted raw *Sheesham* wood door. Crafted with minimal waste to honour the organic shapes of the timber, it features a nature-inspired bronze cast handle and a traditional locking arrangement of wooden spikes. This door does not merely secure the space; it grounds the building in history and tactile rusticity.



Figure 6: The Perforated Wooden Staircase over the Water Body Welcomes Guests to the First Floor with a Mysterious and Mind-Tuning Ambience

Bridging the Intimate and the Monumental

While the upper levels soar with public galleries and a high-ceilinged foundry, the ground floor shelters an intimately scaled residential unit. The master bedroom, reached via a bridge over a water body reminiscent of a rural Bengal pond, is an exercise in radical openness. Long sliding glass windows on the north and south dissolve the walls entirely, designed with the romantic notion that a bird could fly straight through the room. Even the private spaces, such as the master bathroom, maintain this dialogue; translucent glass ensures privacy on the south, while a transparent northern wall opens up to a private courtyard garden and a serene Zen garden anchored by a bronze Buddha resting on basalt stone chips.

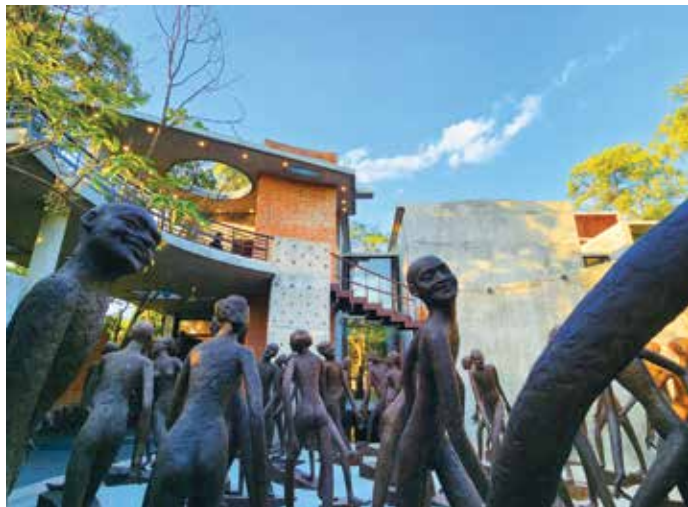


Figure 7: The Circular Courtyard has a Collection of Human Sculptures that will be Revealed Gradually over the Journey; The Tallest Tree on the Campus is Visible Behind the Transparent Bridge.



Figure 8: Helical Spiral Raw Wooden Staircase and Dynamic Human Sculptures into Architectural Design Express Fragility and Melancholy, Creating a Theatrical Space that Resonates with Human Psychology



Figure 9: The Existing Mahua Trees into the Building Frame, Incorporating the Roof as an Intermediary Between the Built Environment and the Sky, and Combining Sacred Geometry Features to Create Spaces that are Imbued with a Sense of the Divine



Figure 10: The Changing Angle and Intensity of Sunlight throughout the Day Create Different Types of Moods and Visual Effects in Tokaroun Exhibition Spaces

Throughout the campus, the architecture defers to nature. A branch of a Kadamba tree defiantly emerges from the grey wall of the foundry, creating a powerful focal point behind the open-air stage, a stark visual manifesto for the preservation of nature. The circular sculpture court's centre perfectly aligns on an axis with the tallest *Krishnachura* tree, the rain chain and the existing pond, framing nature through transparent bridges.

Conclusion

Tokaroun is a triumph of ecological and cultural consciousness. By fusing Tagore's educational ashram philosophy with the fluid, acrobatic dynamism of K.S. Radhakrishnan's bronze sculptures, the architecture achieves a rare sublimity. It is a space where light performs, shadows paint, materials age with grace and art and nature exist not as separate entities but as one unified, breathing masterpiece.

All Images courtesy Author



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Narayanganj City Park and Baburail Canal Restoration

By Md Ishtiaque Zahir and Iqbal Habib

Port city Narayanganj grew along the river, carrying a long legacy of vibrant, layered urban life. People and their everyday rhythms became inseparable from the city as it is lived and shared. As one of

Bengal's busiest river ports, closely tied to the mid-19th century jute trade routes connecting Bengal to Dundee, it drew people from different places into a shared urban setting along the water. Over time,



Image 1: A bird's-eye view showing the blend of water, greenery and cityscape, highlighting the canal restoration development.

Source: Wasik Edaaf



Image 2: A lively riverside retreat where people connect with nature and space.

Source: Md. Mehedi Hasan



Image 3: Community, nature and design converge to create a sense of belonging.

Source: Md. Mehedi Hasan

this formed a rich and lived-in urban condition, where routines, beliefs and rituals unfolded side by side. The river held these overlaps quietly, allowing differences to become part of the everyday. Within this riverine context, the Baburail Canal was once an integral part of this shared life. Boats carried jute and rice through it, connecting the Dhaleshwari and Shitalakshya rivers. It was not just a route of movement, but a shared space of work, exchange and remembrance. Over time, that presence faded. Waste accumulated and parts of it gradually turned into dumping grounds, edges were occupied, water stopped flowing and the canal slipped out of daily life, even as it remained physically present.

The project begins by acknowledging this absence, extending beyond water to a deeper loss of connection. The first step was to understand how the canal could return to the city in a way that people would accept and care for. This began with listening, before any drawing could take place. An intensive multi-layered participatory approach, involving local

communities, user groups and authorities, supported by environmental and social assessments, guided the design. The initiative was driven in 2012 by the commitment to good governance of the then-mayor. This process enabled the voluntary relocation of most encroachments, allowing the canal to be reclaimed without forced eviction. The transformation begins with collective ownership, setting a precedent for socially responsive urban regeneration.

Today, the 405-meter stretch unfolds as a continuous public realm. The edge is shaped as a place to arrive, pause and engage. Ghats, floating decks and shaded walkways create multiple ways of inhabiting the canal. Some come to sit, others to walk, play, or gather. Women and children-friendly areas, sports grounds, skating corners and senior exercise zones are integrated into the spatial structure, ensuring the canal is shared across different users. Parts of



Image 4: An earth mound structure with stepped seating, seamlessly blending with the surrounding greenery.

Source: Wasik Edaaf



Image 5: A vibrant urban oasis where nature, water and community come together.

Source: Wasik Edaaf



Image 6: An aerial view of the designed wetland and Lilly pond, offering a glimpse of natural beauty.

Source: Wasik Edaaf



Image 7: The replantation of green layers creates a vibrant microhabitat, boosting biodiversity and enhancing the urban landscape.

Source: Wasik Edaaf

the former dumping grounds are reshaped into gentle earth mounds. These now accommodate functions such as a boat club, indoor pool and gym. Integrated into the site fabric, they carry a quiet sense of remembrance and awareness of what the site once was. Mobility in the landscape follows this same continuity, with permeable paths, pedestrian connectivity through the lake and trellised walkways encouraging a more leisurely, engaged use. Material selection remains low-impact and locally sourced, using soil, brick, stone, hollow blocks and geo-textiles. Structural interventions are restrained, relying on nature-based solutions for slope stabilisation through planting, modular systems and biodegradable layers.

Ecological regeneration forms a central layer of the project. Planting strategies, carried out through participatory tree-planting initiatives involving local



Image 8: A well-maintained walkways and recreational spaces, reflecting the city's focus on public infrastructure.

Source: Md. Mehedi Hasan



Image 9: The bridge unites land and water, blending nature and design in perfect harmony.

Source: Wasik Edaaf



Image 10: A breathing space for city dwellers to find tranquility and refreshment.

Source: Md. Mehedi Hasan

communities and school children, integrate native species such as Hijol (*Barringtonia acutangula*), Jarul (*Lagerstroemia speciosa*), etc., alongside local aquatic vegetation to stabilise edges and rebuild habitat. Birds and insects begin to return, shade improves and the microclimate becomes cooler. Seasonal flowering introduces a subtle rhythm, marking time through changing colors and strengthening people's connection with the place. Water is regulated through simple control systems, maintaining flow and clarity.

Beyond its environmental and spatial strategies, the canal is re-established as a cultural ground. The Fine Arts Institute extends into the park landscape, supporting everyday creative activity alongside seasonal events such as Pohela Boishakh (Bengali New Year), Pohela Fagun (Spring Festival), etc. Informal celebration spaces and interactive elements, such as a dry fountain, reinforce the canal's role as part of daily urban life.

The project positions itself as an attempt to explore how a degraded urban waterway, once overtaken by encroachment and marked by conflict and violence, can be transformed by giving it back to the community as a resilient and inclusive public landscape.



Ishtiaque Zahir Titas



Iqbal Habib

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FOREIGN COUNTRIES' ARCHITECTURE AWARDS (FCAA)

Commendation Award

Nooruddin Complex

By Ar. Mahmudul Anwar Riyaad, Ar. Mamnoon Murshed Chowdhury, Ar. Shaoki Shamim, Dhaka

Nooruddin Complex at Nabiganj, Narayanganj is a multipurpose community centre run by Epyllion Foundation. Nabiganj is a remotely located and organically grown peri-urban settlement mostly inhabited by lower middle-class families. The area is densely populated and completely deprived of any kind of social infrastructure.

Epyllion Foundation is the CSR wing of Epyllion Group - a family run business conglomerate. Nooruddin Complex, established and run by the Foundation, is named after the late head of the family whose ancestral village is Nabiganj. The project was conceived by the next generation of the family, who themselves grew up in the neighbourhood and were pained by the lack of spaces that instil positivity in the evolving minds of the contemporary youth of the area.

The program of the project was formulated through discussions with its intended users - the residents of the neighbourhood. The functions accommodated in the Complex include Doctors Chambers, a small Pathological Laboratory, 2 Hall Rooms for multi-purpose community use like hosting social dining and watching cricket matches in large groups, Library, Gymnasium, 6 classrooms for after-school tutorials and an outdoor Gallery for open-to-sky art classes for the children and young of the neighbourhood.

Brick is the principal building material – a logical choice due to its availability and economy of construction and maintenance. Rooms are oriented in the North-South direction with thick brick walls and louvers acting as thermal mass. Parts of three-dimensional mass shift randomly to respond to the organic character of the dense surrounding. The statement is bold yet soft, with the texture of solid brick masses forming varying perspectives when viewed from adjacent alleys. Once inside, it is the contrasting openness of the Courtyard that connects



Figure 1: South East Corner

with the outside at different levels. Space flows in different directions, with concrete parapets of the exposed stair acting like counterweights to the central void.

1. ARCHITECTURAL CONCEPT

Creating a social hub for the community, in and around a built form that welcomes them from all directions irrespective of age, religion and gender. A building made of local material and by local craftsmen with familiar technology. Perceived as a building without boundary walls and with entries from all sides. A building that makes the community proud.

2A. SITE AND CONTEXT ANALYSIS - Description of the Project Locale (Include description of the Architecture/ Design of the Area, and how the Project integrates into the Climatic/Cultural/ Architectural Environment of the Area)

Located in a dense fabric of low-rise buildings in a peri-urban context. At the dead end of a narrow winding road. Predominantly a residential area inhabited by low and lower income communities that are deprived of social infrastructures at that level.

2B. BRIEFLY DESCRIBE SOME OF THE KEY CONSTRAINTS AND OPPORTUNITIES OF THE PROJECT AND HOW THE DESIGN SOLUTION ADDRESSED THEM

Since it's a building dedicated to an otherwise neglected community and also run by a charitable organisation, budget was a big constraint. Choice of material, choice of construction technique, multiple use of spaces, accommodating changes, cost of running and maintenance etc. were given priority.

03. DESCRIPTION OF PROJECT DETAILS - Describe the project and highlight the special features, supporting facilities and landscape design, etc.

The idea of the built form and its functions were perceived through discussions at community level- the lack of social spaces which would spur new ideas of innovation were extensively addressed by adding features like open courtyard, casual seating areas, multi-purpose hall, gallery and so on.

The building was offset from the site- smaller footprint built to reduce volume, which in turn facilitated in forming connections to the urban fabric.

The orientation of the building and size of the volumes were carefully curated to ensure air to be drawn into the public spaces, markedly the internal courtyard and flow through to reach the upper floors.

The vertical promenade cast in wooden form finished concrete forms a sculptural entity naturally ventilated through the open internal courtyard.

04. Significance of the project - In what way is this project important? Please describe the aspect(s) of the project which you feel represent a particular achievement, for example the technical, economic, or social achievement, or its response to culture or climate. etc.



Figure 2: South Elevation



Figure 3: Open to Sky Central Courtyard

Connecting the members of the community physically, psychologically and emotionally with a sense of belonging and pride. Its connectivity with immediate surroundings welcomes everyone from the community, its austere walls in bare brick and concrete surrounding the central void offers silence and a sense of repose. Playful stairs rise vertically to give hope and the stepped galleries, large and small, offer scope to share ideas as well as to enter a reflective mode.

05. Areas of Innovation - In what areas is this building exemplary? How does it stand out from its peers?

The contrasting solidity from the exterior breaks free when walking through to reach the open-air courtyard. The courtyard forms the heart of the structure, connecting all functional aspects of the building, tying them as a whole.

The uniformity of material forms a backdrop, a façade for the random urban landscape. Parts of three-dimensional mass shift randomly to respond to the organic character of the dense surrounding. The statement is bold yet soft, with the texture of solid brick masses forming varying perspectives when viewed from adjacent alleys, creating interesting vistas.

06. Details of Sustainable Architecture - How does the project address the criteria for sustainability? Why does it deserve a special award?

Sustainability Engagement and Performance, e.g. Demonstrates strategic commitments to combat climate change; Stakeholder.

Environmental Quality and Well-being, Promotes health and well-being; values ecological, social and cultural aspects of the site and surrounding neighbourhood.

Resource Conservation, e.g. Promotes net zero-energy, low carbon emissions, and innovative use of renewable energy sources; Reduction in material and resource consumption from a life-cycle perspective; Effective waste management and pollution control.

Orientation of built form - Longer façade aligned in the North-South Axis with deep openings formulated by shifting volumes, creating a natural path for wind and air flow to the interiors.

Choice of material – Brick was deemed as the obvious choice due to availability, economy of construction, ease of maintenance and familiar technical know-how.



Figure 4: Interplay of Masses



Figure 5: Central Courtyard or Activity Zone

Thermal mass – Use of thick wide brick louvred screen-like formation placed before glass cut-off sun resulting in lower internal temperatures.

Local and cost-effective technology to improve soil condition – Piling work to enhance soil load bearing capacity was avoided by the technology of excavating existing soil mass and replacing with new soil which was in turn compacted to gain strength and stability.

07. Details of Socially Responsible Architecture - How does the building address the criteria for socially responsible architecture? Why does it deserve a special award?

Social inclusiveness, e.g. Accessible to all; Universal design; Care for the vulnerable or underprivileged.

Delivering Positive impact beyond architecture, e.g. Natural resources; Social equality, justice, values; Policy and legislature; Local economy and jobs; Urban ecology and infrastructural systems; Partnerships and stakeholder diversity.

Outcomes and processes sensitive to local needs, e.g. Community resiliency against disasters; Quality of place/space - comfort & ease of use; Culturally sensitive design features; Affordable, Cost-effective solutions; Efficient use of locally scarce resources; Participatory design and construction processes; Choices of materials, building systems and equipment; Construction techniques.

This project is dedicated to the community; from program formulation to everyday operation of the project is participated by the community. All the programs here from doctors' clinic to gymnasium, from library to classrooms, from dining hall to TV lounge every single square foot of the complex is dedicated for the members of various age groups from the immediate community of Nabiganj.



Figure 6: View from Internal Courtyard towards Social Stair

08A. Users' Profile & Response - Describe how the design addressed the needs of each user profile of the building.

Every activity in this complex is almost or absolutely free for the members of the community. Everyone is attached with the project and thus it is the centre of life in that small and otherwise neglected community. It also provides them with a sense of empowerment and emancipation and relieves them to a certain degree from the mental and financial burden.

08B. Describe the users' response to the building e.g. the operational experience as a result of the choice of material or technical installation.

Extensive use of thick brick walls impacted in lowering the overall internal temperatures - creating a comfortable environment to function. Extensive use of local materials like brick and concrete rendered the building to be maintenance free.



Figure 7: West Elevation



Figure 8: Stair Promenade



Figure 9: Social Stair

09. Innovative Project Technology - Highlight any innovations in construction technology, structural system, material use, building services, site utilities, digital technology, etc.

Soil improvement - Piling works to enhance soil load bearing capacity was avoided by the technology of excavating existing soil mass and replacing with new soil which was in turn compacted to gain strength and stability.

Thermal Mass - Use of thick wide brick louvred screen-like formation placed before glass cut-off sun resulting in lower internal temperatures. Locally available material - Brick was deemed as the obvious choice due to availability, economy of construction, ease of maintenance and familiar technical know-how.



Figure 10: Internal Classroom

Covid 19 - The construction phase was entirely carried out and super-vised during the covid pandemic (2020-2021). Constant super-vision and collaboration with all aspects of the building process had to be done remotely, which provided challenges in achieving the desired level of precision in construction.

All Images Courtesy: Author



Mahmudul Anwar Riyaad is a Bangladeshi architect and Partner at DWm4 Architects, bringing over 30 years of experience in architectural design, project management, and construction supervision. A graduate of Bangladesh University of Engineering and Technology (BUET) and The Bartlett School of Architecture, UCL, he has led numerous landmark commercial, residential, institutional, and mixed-use developments across Bangladesh. Through his leadership at DWm4 Architects—an acclaimed Dhaka-based practice known for its ethical and thoughtful design approach—he has contributed to the delivery of architecture, construction documentation, and integrated engineering solutions that balance practicality with innovation. Email: riyaad86@gmail.com, nafew2017@gmail.com

FOREIGN COUNTRIES' ARCHITECTURE
AWARDS (FCAA)
Young Architect of the Year

Visitors Information Centre

Ruaha National Park, Tanzania

By Ar. Mickdady Mchau

Project: Visitor Information Centre

Location: Msembe, Ruaha National Park, Tanzania

Architect: CPC Tanzania Ltd

Project Type: Tourism and Conservation Facility

Concept and Inspiration

Designed as the gateway to Ruaha National Park, the Visitor Information Centre embodies

the spirit of the wilderness while celebrating the GREATER KUDU as a symbolic icon of the park. The architectural concept merges organic forms inspired by the antelope's grace with the rugged beauty of the natural landscape. Perched strategically atop existing boulders, the structure harmonises with its surroundings, minimising ecological disruption while offering panoramic views of the park.



Figure 1: Aerial View of the Visitor Information Centre

A panoramic aerial view showing the Visitor Information Centre carefully integrated within the natural landscape, with elevated timber walkways connecting pavilion structures while preserving the existing boulders, trees and terrain character.

Source: Author



Figure 2: Aerial View of the Visitor Information Centre

An elevated architectural composition carefully integrated within the rocky landscape, offering visitors a unique arrival experience and panoramic connection to nature.

Source: Author

The design also draws from the traditional Safari hut aesthetics of local communities, blending cultural heritage with modern functionality. Sustainability is at the core, ensuring the building coexists with the natural habitat through passive design and eco-conscious materials.

1. Architectural Style and Key Features

- **Biomorphic Design:** The sweeping, curved rooflines mimic the fluid motion of the GREATER KUDU, creating a dynamic silhouette against the savanna backdrop seen from the planes flying to and from the near Msembe Airstrip.
- **Integration with Nature:** The structure is elevated on stilts, resting lightly on the existing boulders to preserve the terrain and reduce foundation impact.
- **Local Material Palette:** Natural stone, timber and thatch roofing reflect traditional Tanzanian building techniques while ensuring thermal comfort, however the changes on thatches to sheets were made on site due to running cost and maintenance issues

- **Open and Inviting Layout:** Large overhangs and shaded verandas provide cooling, while expansive glazing frames views of the wilderness

Functional Spaces

The centre is designed to enhance the visitor experience with:

- **Administration and Reception Office** – The welcoming hub for park information and ticketing.
- **Restaurant and Café** – A space for refreshments with outdoor seating overlooking the park.
- **Museum and Exhibition Hall** – Interactive displays on Ruaha's biodiversity, conservation efforts and cultural history.
- **Library and Research Corner** – A resource for tourists and researchers to learn about the park's ecosystem.

Sustainability and Ecological Sensitivity

- **Passive Cooling:** Natural ventilation and strategic shading reduce reliance on artificial cooling.



Figure 3: Aerial View of the Visitor Information Centre
A panoramic aerial view showing the Visitor Information Centre carefully integrated within the natural landscape, with elevated timber walkways connecting pavilion structures while preserving the existing boulders, trees and terrain character.

Source: Author



Figure 4: Elevated Walkways and Pavilion Structures
The Visitor Information Centre under construction, with elevated stairways, timber pavilions and concrete supports carefully positioned around the existing rock formations, demonstrating how the design adapts to the natural terrain while maintaining a strong architectural character.

Source: Author



Figure 5: Main Front view and Elevated Structures
The Visitor Information Centre rises above natural boulders, using timber, concrete columns and raised walkways to respond respectfully to the existing terrain.

Source: Author



Figure 6: Front Approach View
The entrance sequence is framed by sculptural elements, natural trees and elevated buildings, creating a memorable gateway into the Visitor Information Centre.

Source: Author



Figure 7: Sunset Render of the VIC
At sunset, the centre transforms into a warm and welcoming landmark, with glowing interiors and natural materials blending harmoniously with the savannah setting.

Source: Author



Figure 8: Conceptual Site Plan View
The project layout follows the natural landscape pattern, with timber circulation paths linking visitor spaces while minimising disturbance to the existing environment.

Source: Author



Figure 9: Aerial Render of the Full Complex

The overall design is organised around connected pavilions, elevated walkways and natural rock formations, creating a sensitive architectural response to the site.

Source: Author



Figure 10: Timber Deck and Viewing Platform

A spacious elevated deck creates an immersive outdoor experience, allowing visitors to pause, gather and enjoy uninterrupted views of the surrounding wilderness.

Source: Author

- **Rainwater Harvesting:** Integrated systems collect and reuse water for landscaping.
- **Low-Impact Construction:** Minimal site disruption through modular and lightweight techniques.
- **Solar Energy:** Photovoltaic panels supplement power needs sustainably.

Contextual Harmony

The design respects Ruaha's untouched wilderness by blending into the rocky outcrops and native vegetation. The use of earthy tones and textured materials ensures the building feels like a natural extension of the landscape rather than an intrusion.

The Visitor Information Centre at Msembe is more than just a functional facility—it is a tribute to Ruaha's majestic wildlife and cultural heritage. By combining biomimicry, traditional craftsmanship and sustainable innovation, CPC Tanzania Ltd has created a landmark that enhances eco-tourism while preserving the park's pristine beauty for future generations.



Ar. Mickdady Mchau is a Tanzanian architect with a Bachelor's degree in Architecture from Ardhi University. His work focuses on public, institutional and tourism-related architecture, with interest in sustainable and contextual design. He designed the Visitors' Information Centre in Ruaha National Park, Tanzania.
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Enhancing Winter Indoor Air Quality Through Building Bye-Law Reforms

A Case Study of Hisar, India

Ar. Bindu Dhanda, Dr. Tejwant Singh Brar and Dr. Mohammad Arif Kamal

ABSTRACT

Poor winter indoor air quality (IAQ) in semi-arid regions contributes to respiratory illnesses, thermal discomfort and reduced occupant productivity. Yet, building bye-laws in many Indian cities rarely address these risks through enforceable ventilation standards. In Hisar, winter indoor air pollution is intensified by reduced ventilation, atmospheric temperature inversions and increasing urban density. This study evaluates winter-specific indoor air quality conditions through field monitoring and simulation-based ventilation assessment in 12 representative residential buildings during December and January. Key IAQ parameters, including $PM_{2.5}$, PM_{10} , carbon dioxide (CO_2) concentration and indoor temperature, were monitored under typical occupancy conditions. The results revealed $PM_{2.5}$ concentrations ranging from 60 to 140 $\mu g/m^3$ and CO_2 levels between 1200 and 2200 ppm, indicating inadequate ventilation and significant indoor pollutant accumulation. Ventilation simulations showed that natural ventilation scenarios achieved low air change rates of approximately 0.2 to 0.3 ACH, whereas hybrid ventilation strategies improved air exchange rates to 0.6 to 0.8 ACH. The findings highlight critical gaps in existing building bye-laws regarding indoor air quality and ventilation performance standards. The study underscores the need for IAQ-focused, climate-responsive reforms in building regulations to support healthier indoor environments and strengthen urban health resilience in semi-arid regions such as Hisar.

KEYWORDS: Indoor Air Quality (IAQ), Building Bye-Laws, Continental Semi-Arid Climate, Winter Ventilation, Air Change Rate (ACH), Passive Building Design, Hisar, India

1. INTRODUCTION

Indoor environments account for nearly 80–90% of human daily exposure time, making indoor air quality a critical determinant of public health and well-being (World Health Organisation [WHO], 2010). Poor indoor air quality has been associated with respiratory illnesses, cardiovascular disorders and reduced cognitive performance (Wargocki & Wyon, 2007; WHO, 2021). With rapid urbanisation and increasing air pollution levels in Indian cities, concerns related to indoor environmental quality have become more significant in recent years.

While outdoor air pollution is regulated through frameworks such as India's National Ambient Air Quality Standards (NAAQS) (Central Pollution Control Board, 2009), indoor air quality provisions remain weakly integrated into building regulations and urban planning frameworks (Bureau of Indian Standards, 2016). Existing building codes in India primarily emphasise structural safety, fire protection and land-use regulations, while relatively limited attention is given to indoor environmental quality.

In continental semi-arid climatic regions, winter conditions significantly aggravate indoor air pollution due to several interrelated factors. These include reduced natural ventilation rates, increased use of

indoor combustion heating devices and atmospheric temperature inversions that trap pollutants near ground level (Intergovernmental Panel on Climate Change [IPCC], 2021; Li et al., 2007). Buildings often remain closed for thermal comfort during winter, resulting in poor ventilation and increased pollutant accumulation indoors.

Cities such as Hisar in Haryana have experienced rapid residential development under the Haryana Building Code, 2017 (Government of Haryana, 2017). However, winter indoor air quality considerations remain largely absent from the regulatory framework governing building construction and urban development. This research investigates indoor air quality conditions during winter in Hisar and evaluates the need for climate-responsive reforms in building bye-laws.

2. METHODOLOGY, CASE STUDIES AND DERIVATIONS

2.1 Study Area: Hisar

Hisar, located in the northern Indian state of Haryana, serves as an appropriate case study for examining the need for improvement in building bye-laws aimed at enhancing indoor air quality in continental semi-arid climatic regions.

The city is situated at approximately 29°05' north latitude and 75°45' east longitude, around 160–180 km west of Delhi. The district is characterised by sandy-loam soils and predominantly agricultural landscapes, with nearly 80% of the land being cultivable.

Hisar experiences extreme climatic variations, including hot summers, cold winters and low annual rainfall. During winter months, temperature inversions and low wind speeds often lead to the accumulation of air pollutants, thereby influencing both outdoor and indoor air quality conditions (Goyal & Kumar, 2010).

Rapid urban growth and increasing residential density in the city further influence indoor environmental quality, particularly where building layouts restrict adequate ventilation.

2.2 Field Measurement of Indoor Air Quality

Indoor air quality monitoring was conducted during the winter months of December and January in representative residential buildings across selected neighbourhoods of Hisar.

The monitored parameters included:

- PM_{2.5} concentration
- PM₁₀ concentration
- Carbon dioxide concentration (CO₂)
- Indoor temperature

The collected data were compared with internationally recognised standards. The World Health Organisation recommends a 24-hour PM_{2.5} exposure limit of 40 µg/m³ (WHO, 2021), while ASHRAE Standard 62.1 recommends indoor carbon dioxide concentrations below 1000 ppm for acceptable ventilation performance (ASHRAE, 2022).

Monitoring was carried out at regular intervals to capture variations in indoor air quality under typical residential occupancy conditions.

2.3 Simulation-Based IAQ Assessment

To further evaluate ventilation performance, simulation modelling was conducted under three ventilation scenarios commonly observed in residential buildings.

Air change rates were calculated and compared with recommended minimum ventilation rates defined under ASHRAE Standard 62.1 (ASHRAE, 2022). Carbon dioxide generation rates were estimated based on occupant emission models developed by Persily and de Jonge (2017).

Indoor pollutant accumulation patterns were analysed using indoor air mass balance models to evaluate the impact of ventilation strategies on indoor pollutant concentrations (Li et al., 2007).

3. RESULTS / FINDINGS

3.1 Climatic Characteristics of Continental Semi-Arid Regions

Continental semi-arid climates are characterised by large seasonal temperature variations, low humidity levels and limited precipitation. Winter months in such climates often experience atmospheric stability and temperature inversion layers that trap pollutants close to the ground surface (IPCC, 2021).

Reduced wind speeds during winter further limit natural air movement, thereby decreasing ventilation rates within buildings. These climatic conditions significantly contribute to the accumulation of indoor pollutants when buildings remain closed to maintain thermal comfort.

3.2 Measured Indoor Air Quality Data

Field monitoring revealed significant deviations from recommended indoor air quality standards during winter (Table 1). Elevated particulate concentrations indicate substantial indoor–outdoor pollutant transfer as well as indoor accumulation due to limited ventilation. These findings are consistent with previous studies on residential indoor air quality in Indian urban environments (Goyal & Kumar, 2010).

Table 1: Measured Indoor Air Quality Parameters During Winter
Source: Authors

Parameter	Measured Range	Recommended Standard
PM _{2.5}	60 to 140 µg/m ³	≤ 40 µg/m ³ (WHO, 2021)
CO ₂	1200 to 2200 ppm	≤ 1000 ppm (ASHRAE, 2022)
Indoor temperature	14 to 18°C	20 to 24°C (ASHRAE, 2020)

3.3 Simulation Results

Simulation modelling demonstrated considerable variation in ventilation performance across different ventilation strategies (Table 2). Natural ventilation alone produced air change rates significantly below recommended standards (ASHRAE, 2022). Hybrid ventilation strategies combining natural airflow with mechanical assistance improved indoor air exchange while maintaining thermal comfort conditions (ASHRAE, 2020, 2022).

Table 2: Simulation Results for Ventilation Scenarios
Source: Authors

Scenario	Ventilation Strategy	Air Change Rate
Scenario 1	Closed building envelope	0.2 ACH
Scenario 2	Natural ventilation	0.3 ACH
Scenario 3	Hybrid ventilation	0.6 to 0.8 ACH

4. DISCUSSION

4.1 Architectural Implications of Poor Indoor Air Quality

Architectural design decisions significantly influence indoor air quality outcomes. High plot coverage permitted under model building bye-laws often reduces the availability of open spaces necessary for effective cross ventilation in dense residential neighbourhoods (Ministry of Housing and Urban Affairs, 2016).

Similarly, airtight building envelopes without integrated mechanical ventilation systems may lead to higher indoor pollutant accumulation levels, particularly during winter months when windows and doors remain closed for thermal comfort (Li et al., 2007).

Building orientation also affects passive solar heat gain and natural airflow patterns. Poor orientation may reduce winter solar heating potential while limiting opportunities for effective natural ventilation (Santamouris, 2014).

4.2 Review of Existing Building Bye-Laws

The National Building Code of India 2016 and the Haryana Building Code 2017 provide only limited mandatory provisions related to indoor air quality performance (Bureau of Indian Standards, 2016; Government of Haryana, 2017).

Existing ventilation provisions largely rely on prescriptive guidelines such as those outlined in IS 3362:1977, which primarily emphasise natural ventilation through window openings and building spacing (Bureau of Indian Standards, 1977). However, these guidelines do not incorporate performance-based ventilation assessments or indoor air quality monitoring mechanisms.

As a result, current regulations may not adequately address indoor environmental challenges associated with urbanisation, climate change and increasing outdoor air pollution levels.

5. CONCLUSIONS AND RECOMMENDATIONS

Measured and simulated data from this study indicate that winter indoor environments in Hisar frequently experience low ventilation rates and elevated pollutant concentrations. Indoor PM_{2.5} levels often exceeded recommended limits, while carbon dioxide concentrations indicated inadequate ventilation conditions.

Existing regulatory frameworks such as the National Building Code of India 2016 and the Haryana Building Code 2017 lack enforceable indoor air quality performance standards. The absence of climate-responsive ventilation guidelines within building bye-laws limits the effectiveness of current regulations in ensuring healthy indoor environments.

To address these challenges, this study proposes the following policy and design recommendations:

- Introduce enforceable requirements of at least 0.6 air changes per hour (ACH) in residential buildings to ensure baseline indoor air quality.
- Promote designs that combine natural ventilation with mechanical assistance, balancing energy efficiency with improved air circulation.

- Improve solar orientation and window placement guidelines to enhance passive heating and airflow.
- Mandate indoor air quality monitoring in large residential complexes and public buildings, with reporting mechanisms linked to compliance checks.
- Provide financial or regulatory incentives for adopting mechanical ventilation systems with heat recovery units to reduce energy demand while maintaining indoor air quality.

Integrating indoor air quality considerations within building bye-laws can significantly improve occupant health, comfort and productivity while aligning urban development policies with global public health objectives promoted by the World Health Organisation (WHO, 2010, 2021).

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The Paradox of Rapid Urbanisation

Investigating Systemic Failures and Contextual Challenges in Migrant Construction Workers' (Laborers') Housing and Social Equity in Mumbai

By Ar. Himani Sanjiv Tawade, Dr. Atul Kumar Singla and Ar. Khushboo Adhiya

Abstract

India's construction sector, a key economic pillar and the second-largest employer, is projected to employ 100 million workers by 2030. Yet this growth conceals a social inequity affecting nearly 71 million workers, largely migrants, who are exposed to a severe housing crisis, detrimental living conditions and health risks. This problem is significantly magnified in the global city of the Mumbai Metropolitan Region (MMR). Utilising a mixed-methods approach involving a cross-sectional study of 18 diverse construction projects, policy reviews and stakeholder interviews, this paper investigates the challenges leading to such housing inequity in MMR. Research findings shed light on multi-level failures at policy, city and implementation levels, driving the housing crisis of construction workers in MMR. It also highlights an **"Equity paradox"** where workers' temporary houses serve as de facto homes for decades, impacting their overall health and wellbeing, yet excluding them from mainstream society. The findings further reveal a lack of accountability at the employers' end, due to the 'Domino effect' caused by systemic gaps, a significant contributor to ongoing social inequity. Consequently, the paper identifies an inefficient regulatory system as the root cause of this crisis and recommends policy interventions aligned with Sustainable Development Goals 8 and 11.

Keywords

Construction Workers' Housing, Labour Housing, Living Conditions, Social Equity, Mumbai (MMR), Migrant Labour, Systemic Gaps, Social Injustice.

1. INTRODUCTION

As the global community strives toward Sustainable Development Goals (SDGs) 11 - Sustainable Cities and Communities, the rapid urbanisation of India presents a critical paradox. The very workforce driving urban expansion, viz., construction workers (labour), are often subjected to social exclusion and deprived of the basic human need of healthy housing.

According to the Knight Frank Report, the construction sector in India is the second-largest employer, with an estimated 71 million workers in 2023 and expected to exceed 100 million by 2030. (Times, 2023) Construction workers in India largely comprise migrants from rural regions who come from low socio-economic backgrounds and have limited formal education or vocational training. Drawn by the promise of employment in the rapidly expanding construction sector, these individuals migrate seasonally or permanently to urban centers in search of livelihood opportunities. (Rajiv Shrivastava, 2016) However, upon arrival, most of these migrant workers lack access to basic housing, owing to financial constraints, the absence of legal documentation and the fluid nature of construction work that frequently shifts across sites. As a result, these migrant workers often rely on two types of accommodation facilities as follows:

- (1) Employer-provided temporary housing facilities located within or near construction sites, which are mandated through the BOCW Act 1996 and
- (2) Low-cost informal settlements rented or shared with family, friends, or co-workers.

Construction workers' housing most commonly remains excluded from the mainstream housing sector and significantly lacks spatial planning, services and amenities, resulting in unhealthy housing conditions. Guru Prakash Singh, in his article titled '*Plight of Construction Workers*' 2016, focusing on the city of Gandhinagar, had mentioned this by stating, "It is clear that working and living conditions of workers in construction are not up to the mark as the entire surroundings are unhygienic. There is very little space in their houses and they do not have enough good amenities. It will not be entirely wrong to say that they live like slum dwellers in an urban area in the city. Under such circumstances, the lack of proper basic amenities, such as bathroom and toilet and drinking water, makes their minimum living standards and working conditions unsuitable for existence". Since 2014, Dr. Renu Desai's extensive publications have also provided critical insights into the substandard housing conditions faced by construction workers in Ahmedabad, with her recently published article titled 'The overlooked housing crisis of migrant workers' reconfirming the same by stating "Migrant worker communities in cities occupy precarious residences, ranging from informal rentals, employer-provided rooms or squatting on vacant lands." (Desai 2025; Desai 2020; Desai 2014). Dr. Manoj P. K. (2015), in his research article titled '*Socio-Economic Conditions of Migrant Labourers -an Empirical Study in Kerala*,' has given an elaborate description of the precarious living conditions of construction workers in Kerala. Other studies conducted on construction workers in various Indian cities confirm the precarious conditions of construction workers' housing.

These conditions are found to be further intensified in the global megacity and economic capital of India, Mumbai Metropolitan Region (MMR), which currently has more than 10,000 ongoing construction projects and has attracted migrants from within Maharashtra and other states who constitute the majority of the labour force in India's construction sector (Gwalani & Mashru, 2024). Owing to MMR's increasing migration, acute scarcity of land, escalating property prices and high living costs, the workers are subsequently forced to live within hazard-prone construction sites or in slums, often getting exposed to physical and mental health hazards resulting from rat bites, mosquito bites, dust, noise pollution, food poisoning, thermal discomfort and injury hazards. This question arises even more in the case of employer-provided housing facilities, which are expected to be governed under the 'Building and Other Construction Workers' Act 1996 by the BOCW welfare board.

A critical paradox is that construction workers' housing, although termed 'Temporary Accommodation' in the BOCW Act 1996, is actually inhabited by workers for their entire job tenure, ranging from 10 to 25 years. During this time, these temporary accommodations effectively function as de facto homes, shaping the physical, social and psychological well-being of workers in ways comparable to permanent housing environments. This scenario is also increasingly becoming the reason for labour instability within projects. Despite this, construction workers' housing in MMR continues to remain severely under-planned, under-regulated, underinvested and under-designed. Observations and interviews reveal that the challenges shaping this context, architecture and quality of these temporary housing facilities operate across multiple levels, such as policy making, policy enforcement, on-ground implementation, financial constraints and design.

This research aims to examine the systemic and contextual challenges that sustain existing practices in construction workers' housing and hinder their improvement, with a specific focus on employer-provided facilities within the Mumbai Metropolitan Region (MMR).

2. AIM

To identify and critically analyse the gaps and challenges in the system of construction workers' housing that undermine the social sustainability and human dignity of migrant construction workers in the hyper-dense environment of the Mumbai Metropolitan Region (MMR) of India.

3. OBJECTIVES

- A) To study the existing policy framework for construction workers and analyse its overall impact on the workers' housing scenario
- B) To understand the contextual constraints of MMR and their impact on the housing conditions of construction workers.
- C) To comprehend the on-ground challenges faced by employers and other stakeholders that influence construction workers' housing conditions

4. LITERATURE REVIEW

The literature review for this study was predominantly based on understanding the overall approach of governing bodies towards construction workers' housing, at three levels of implementation, viz: 1) International (global); 2) National (India); and 3) City (Mumbai) level. Policies, government portals, official reports and scholarly articles relevant to construction

workers' housing were identified at each level and studied in depth. The critical findings revealed that the BOCW Act 1996 is the primary policy applicable to construction workers' welfare in India. NBC 2016 provides detailed guidelines for the housing facilities of construction workers, which align with those suggested by the International Labour Organisation (ILO). To get a global perspective, policies/codes for construction workers' accommodation published by various countries, such as Malaysia, Singapore, Australia, UAE, were also referred to. It was observed that the guidelines for temporary construction workers' amenities and accommodation, developed by CIDB, Malaysia, are not only highly elaborate and stringent in terms of quality standards and their enforcement, but also presented like a user manual, including graphics and images that make it easy to perceive and build for anyone. (Malaysia, 2018) The Singapore Standards Council has also published "Code of Practice for temporary housing quarters on construction sites," a detailed manual for quality control of the construction workers' housing in 2009. This provides standards for spatial requirements and worker welfare, including considerations for safety, hygiene and sanitation (Council, 2018). Comparative analysis highlighted the fragmentation of Indian policies, the absence of dedicated guidelines and inadequacies in enforcing formal housing for the migrant construction workers' community.

In addition to these, minimum benchmarks for decent housing were explored through a review of reports, the SDG Metadata translation project and the World Health Organisation's Housing and Health Guidelines and published research articles. This was done to identify key parameters for analysing the contribution and impact of policies on construction workers' housing. In this research, the 8 key indicators specified by the SDG metadata project are used for the analysis.

Finally, the third category of review included the Development Control and Planning Regulations (DCPR) of Mumbai and Maharashtra, specifically aimed at identifying city-specific provisions existing for the housing of migrant workers. While no specific considerations were identified for the same, the study revealed a distinct contrast in the design and construction processes enforced for regular housing projects vs. construction workers' temporary housing facilities. Findings from the literature review are further discussed in detail under the Results section.

5. METHODOLOGY

This study (Figure 1) was conducted as part of a larger investigation into the housing conditions

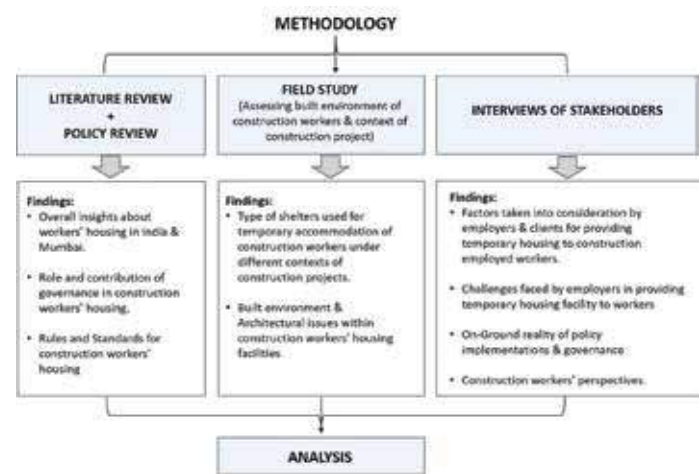


Figure 1: Methodology

Source: Author

of construction workers across India. The sample selection criteria included various contextual factors generally associated with construction projects and tend to influence the housing of construction workers employed for the project. These included:

- Type of project – Real estate and Infrastructure
- Scale of project – Small (project cost below 100 Cr), Medium (100 – 500 Cr), Large (above 500 Cr)
- Ownership of project – (Public (Central government, State Govt., District Govt.), Private).
- Stage of construction – (Substructure, Superstructure)
- Location – Metro city, non-metro cities
- Type of Employer – Individual, small construction company, large construction company.

Construction projects having a combination of these contextual backgrounds were selected for the study across India to understand how the housing facilities provided to workers differed under different circumstances. The scope of this paper, however, narrows to a cross-sectional sample of 18 construction projects located in the Mumbai Metropolitan region.

The methods implemented for conducting this study included literature review, policy review, field study observations and interviews of stakeholders. The literature and Policy review helped in understanding the overall landscape of policies governing the housing scenario of construction workers in India. Details of the same are discussed in the literature review section. The second method used was a field

study, under which the housing facilities provided to construction workers were evaluated using a specially formulated assessment framework (Parte & Singla, 2024). This method helped in two ways. First, it led to an architectural assessment of the built environments of construction workers' housing facilities; and secondly, it helped in understanding the association between the context of the construction project and the built environments of workers' housing provided under those projects. Finally, the third method used was informal discussions and interviews of stakeholders, including construction workers, employers (contractors), project managers, architects, clients and government authorities. In all, 18 Contractors / Project managers of the selected projects, through informal discussions, were asked about the factors and challenges influencing their decisions related to workers' housing facilities. More than 35 construction workers, each representing a much larger group of workers, were interviewed using a questionnaire to ask about their experience and aspirations related to housing; 19 Architects were interviewed using a questionnaire to understand their role in construction workers' housing and government officials from BOCW and MCGM were informally interviewed to understand their contribution in ensuring decent housing to workers. These interviews led to a larger understanding of the multi-level challenges faced by each stakeholder and their interconnectedness.

The information gathered from these various methods was then critically analysed to understand the interrelationship between them, which revealed that the gaps and loopholes in the policies were the root cause behind the failures happening at other levels. The following chart explains the methodology.

6. BACKGROUND STUDY - CURRENT SCENARIO OF CONSTRUCTION WORKERS' HOUSING IN MUMBAI METROPOLITAN REGION (MMR)

As a part of this larger research, a cross-sectional study was conducted in Mumbai, across 18 construction projects, each differing in terms of its scale, type, cost and ownership. The study included physical assessment of construction workers' existing housing facilities, using a specially formulated assessment framework (Parte & Singla, 2024). This study led to an understanding of the following aspects of construction workers' housing.

- Types of enclosures/shelters used for workers' housing in Mumbai
- Typical architectural issues within each type of shelter and its surroundings

- Resulting in health-hazardous housing conditions

Table 1 gives a summary of these aspects, showcasing the current scenario of construction workers' housing in Mumbai.

7. RESULTS

The study resulted in the identification of various multi-level factors driving the current social inequity of construction workers in MMR. While the spatial and socio-economic challenges of MMR were noted to play a crucial role in forcing workers to reside within construction sites, slums, or in informal settlements, the larger underlying force behind the precarious housing conditions of workers was understood to be a major systemic failure. A fragmented and inadequate policy framework that fails to consider the basic human need of safe and healthy housing for its migrant workforce was found to be the major systemic loophole, leading to other challenges, creating a domino effect that eventually results in isolating the community of construction workers from the mainstream society. While this Domino effect is explained further under the discussion section, the identified gaps and challenges (Figure 2) are described below under three categories as follows:

- Systemic gaps in the existing policy framework and governance
- Mumbai-specific spatial and financial constraints
- Implementation and enforcement bottlenecks

A) Systemic gaps in the existing policy framework and governance

As per the National Housing Bank, *"The policy on housing includes intervention along two broad*

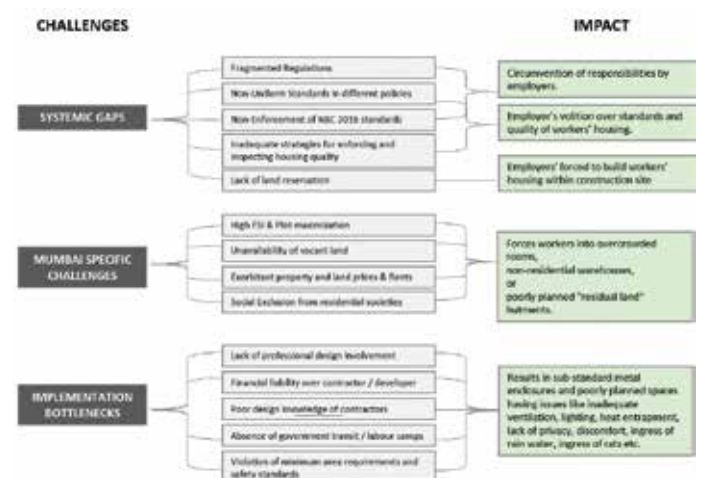


Figure 2: Summary of findings
Source: Author

Table 1: Types of shelters used for temporary housing of employed construction workers in Mumbai, typical architectural issues within them and resulting housing conditions.

Source: Author

	On-Site Shanties	Labour camps (generally Off-Site)	Off-site Rented Permanent structures.
Typical case			
Spatial planning and resulting conditions	☐ Located within the construction site leads to • Isolation from society ☐ Mix of activities ☐ Absence of furniture for storage, cooking, drying wet clothes, sleeping, etc., leads to • Crowding, • Dampness, • Lack of privacy and • Overall discomfort ☐ Absence of planned openings leads to • Poor light and ventilation ☐ Unsealed gaps between walls, floor and roof allow • Ingress of rats, insects and rainwater inside the habitable space ☐ Enclosures made using metal sheets without openings for ventilation result in • Thermal discomfort ☐ Unsafe electrical services and lack of fire safety measures increase • Chances of accidents and injuries ☐ Structures surrounded by construction activities, materials and equipment lead to • Higher chances of injury hazards • Dust (air pollution) • Noise pollution • Stagnation of water forming puddles	☐ A mix of activities within small, unpartitioned rooms leads to • Crowding • Ingress of rats • Dampness • Higher chances of injury. ☐ Labour camps made of metal sheets without means of ventilation lead to • Inadequate light and ventilation • Thermal discomfort	☐ A large number of workers are accommodated in a single space. ☐ Bunk beds placed close to each other ☐ Lack of furniture for the storage of personal belongings ☐ Hanging of used and wet clothes within habitable areas leads to • Crowding • Dampness • Noise pollution • Chances of injury ☐ Toilets located near sleeping areas ☐ Cooking and dining activities happening within sleeping areas add to the • dampness and • lingering foul smell.

dimensions: (1) Physical, in terms of occupancy and minimum physical requirements for housing units to improve living conditions within the overall urban development of the country. (2) Financial, to enable access and affordability." (NHB, 2009) Even for SDG-11, 8 key indicators have been identified through the SDG Metadata Translation Project, which are considered basic measures to ensure safe and affordable housing. (Group, 2020) These include:

- a) Access to Water
- b) Access to Sanitation
- c) Sufficient Living area / Sufficient living area (Min. 9 sqmt for 3 people)
- d) Structural Quality / Durability of dwellings
- e) Security of tenure
- f) Affordability
- g) Accessibility
- h) Cultural adequacy

These housing equity indicators are considered globally in housing policies, were used as the parameters for assessing the role and impact of Indian policies on construction workers' housing. These parameters were broadly classified under the following four categories:

- A) Policy ensures - Access to a legal and affordable housing facility in the migrated / job location.
- B) Policy prescribes - Standards / Codes for the design and construction of safe and healthy housing
- C) Policy specifies - Governing process for effective enforcement of the regulations and standards
- D) Policy sets – Stringent Inspection processes and Action against Non-Compliance

Table 2 shows a comparative study of policies relevant to construction workers, indicating their contribution and gaps with respect to the considered parameters. Based on these assessments and an understanding of its on-ground implementation, acquired from stakeholder interviews, the following systemic failures have been identified as responsible for the social inequity of construction workers in India.

i. Fragmented policy landscape and institutionalised gaps

The table reveals that India currently lacks a holistic policy framework dedicated to migrant construction workers' housing. The provisions for workers' housing

are highly inadequate in terms of housing standards, are fragmented into multiple policies without cross-referencing and have weak enforcement strategies. On-field study and stakeholder interviews revealed that, except in a few large-scale projects, the BOCW Act 1996 is the only policy implemented, while there is negligible awareness of any other policies, including NBC 2016, within the employer (contractor) community. Further, regarding the housing of construction workers, the BOCW Act has a very small section in its Chapter 6, which is largely focused on the provision of free temporary accommodation to workers by their employers within or near construction sites. However, it does not provide standards or guidelines related to sizes of habitable areas, structural systems, materials, openings, safety and building services (Ministry of Labour and Employment, 1996). The National Building Code of India (NBC) 2016 provides elaborate standards for workers' temporary housing, but is not cross-referenced with the BOCW Act or MCGM-DCPR 2034. (Standards, 2016). According to a Government of India Cabinet Secretariat clarification (F.No. 082/2/1/2020-CA.V(Vol.III) dated 25th June 2025, the NBC 2016 is fundamentally a voluntary, recommendation-based document and can become legally binding only by incorporating it in state or local laws (Secretariat, 2025). This gap in integration in NBC and other policies removes the legal binding of its implementation for workers' housing. Other relevant policies have fewer codes, but are different from NBC 2016 and again, are not stringently enforced by governance. Local regulations, such as DCPR 2034, also do not provide holistic frameworks for the planning and construction of workers' housing (Corporation, 2018). By operating within this loose regulatory environment, contractors can provide substandard, metal-sheet enclosures that workers are forced to inhabit as de facto homes for 15 to 25 years, despite their legal classification as "temporary". Ultimately, this policy fragmentation ensures a complete lack of accountability, permitting the continued relegation of the workforce to hazardous and undignified living conditions.

ii. Weak strategies for enforcing standards and ensuring housing quality

In continuation of the first loophole, poor strategies to enforce and implement housing quality further support the ongoing practices. BOCW Act at the national level, as well as the local by-laws of Mumbai, have not laid down any processes by which the spatial, structural and architectural quality of construction workers' temporary housing can be validated before or during the habitation. Non-enforcement of NBC

Table 2: Comparative study of policies relevant to migrant workers to analyse their role and impact on the construction workers' housing scenario
Source: Author

POLICY / REGULATIONS	BOCW Act 1996	OSH Code (ISMW Act)	Contract Labour Act	NBC 2016	MCGM DCPR 2034	ARHC (PMAY-U)
Applicable to	Construction Workers / Labour	All employees and Workers	Contract workers	All construction in India	All construction activities within MMR	Urban Migrant and Poor workers
Purpose of Policy / Scheme / Regulation	Regulate employment/ service conditions and the welfare of construction workers.	Consolidate, simplify and modernise 13 fragmented central policies related to labour.	Regulating the working conditions of contract labour	To provide guidelines for building construction, ensuring safety, health, sustainability and structural integrity	Guidelines for land use, construction and edevelopment activities in Mumbai	Ensure low-cost rental housing for urban migrant and poor workers
Provides Access to Legal and Affordable Housing	✓ Only for employed CWs.	✓ Only for employed CWs.	✗	✗	✗	Although this scheme is prepared to facilitate rental housing for the urban poor, which can benefit CWs, it is not implemented in Mumbai.
Guidelines / Standards	✗	✗	✗	✓	✗	
Water	✓	✓	✓	✓	✓	
Sanitation	✓	✓	✓	✓	✓	
Sufficient Area	✗	✗	✗	✓	✗	
Structural durability	✗	✗	✗	✓	✗	
Affordability	✗	✗	✗	✗	✗	
Accessibility	✗	✗	✗	✗	✗	
Cultural Adequacy	✗	✗	✗	✗	✗	
Enforcement	✗	✗	✗	✗	✗	
Inspection and Action for NC	✓ Only Inspection	✗	✗	✓ Only Inspection	✗	

or any other standards for construction workers' housing rules out the basis for inspection, often excluding site inspections of workers' housing facilities and quality. This loophole in the system also leads to the elimination of any legal consequences for employers for providing poor-quality housing, resulting in a lack of accountability towards any governing body and allowing a free hand for many local and independent contractors to cut corners in their expenses by heavily compromising the quality of workers' housing facilities.

iii. Absence of Land Reservation for Construction Workers' Housing in India's Development Planning

The urban planning policies of India do not reserve any land for construction workers' housing, making it a challenge for construction workers to access

adequate land (Desai, 2020). The ARHC 2020 under PMAY-U, although it addressed this issue and identified solutions, still has implementation-level challenges, leaving the issue unresolved. Mumbai, already a densely populated city, has this gap in the system, which is one of the crucial drawbacks, challenging the employers (contractors) with the most tedious task of availing land for constructing workers' housing.

iv. Absence of a policy framework for Unemployed / Freelancing construction workers

The current regulatory framework of India, primarily the BOCW Act 1996, as well as other above-mentioned policies, is structured around workers who maintain formal, long-term employment ties with specific contractors. This leaves a significant

portion of the migrant workforce, specifically the freelancing worker community, like carpenters, plumbers, painters and more, without any dedicated housing protections. Due to the 'Fluid Nature' of Construction work and systemic barriers such as illiteracy, financial constraints and non-registration under the BOCW Act 1996, these individuals are frequently unacknowledged by governing bodies. This policy void leads to profound social exclusion, as these workers are denied access to the mainstream benefits of the cities they help build. In the absence of legal mandate or support, these individuals are forced to live in detrimental housing conditions within slums or informal settlements of the city

B) Spatial and Socio-Economic Constraints of Mumbai

In hyper-dense urban contexts like Mumbai, spatial dynamics and economics play a significant role in shaping housing facilities for construction workers.

v. FSI and plot maximisation leading to a shortage of land within plot boundaries

High land values and the allocation of high Floor Space Indices (FSI) incentivise developers to utilise every square meter of the plot for saleable area. This leaves the plot with negligible land available for planning and constructing workers' housing facilities, often resulting in the erection of poor-quality temporary hutments, dispersed on the residual land parcels or within under-construction buildings. Such facilities, built on the priority of accommodating the required number of workers, often lack necessary services and design considerations such as sanitary facilities, cooking and washing facilities, lighting, ventilation, basic comfort and safety.

vi. Unavailability of vacant land near project sites

Mumbai's dense urban fabric and ever-increasing construction activities have left almost no vacant land for contractors to plan decent housing facilities for workers. This issue, although somewhat tackled by larger projects by phasing, continues to remain exponentially big for small-scale projects (1 or 2 buildings) or redevelopment projects, having a smaller number of workers. Finding vacant land far away from the project site becomes impractical owing to the travel time and cost. This constraint forces employers to provide temporary accommodations within the site on residual land parcels, which are generally of unequal shapes and sizes, reflecting on the space planning of workers' housing. The alternative option to this, as chosen by employers having a larger number of workers, is that of rented property.

vii. Economic and Social constraints

Mumbai is India's most expensive city, with exorbitant property rates and rents. While renting residential property is a highly unaffordable task for most of the local and independent contractors, this alternative system is utilised only by the contractors of large-scale private and public projects. However, the demand vs supply, combined with the economic dynamics of the city, leads to high competition between the large-scale employers for securing property deals. Social constraints, wherein many residential societies are selective about their tenants, add to this already complex scenario. All the above-discussed challenges, together with negligible support from local governance, leave employers with very limited choice of properties which they rent for accommodating workers. Field study revealed that most of these properties are either rooms rented in illegal settlements (slums) or non-residential structures such as warehouses, unused factories, multipurpose halls, etc. The most common impact of this constraint on workers is overcrowding and loss of privacy. Although the BOCW Act specifies a maximum of 10 workers in a single room, such properties accommodate a large number of workers at a time.

viii. Absence of government-provided transit/labour camps

Despite multiple challenges faced by almost all employers of construction workers in Mumbai, negligible support or incentivisation is provided by the central, state, or local government. There are no transit camps, community housing facilities, or any other provision to help employers ease out their problems. Such a non-supportive governance approach, combined with a weak policy framework, results in substandard housing for workers. Since each of the above issues exists at a city level, finding a way out becomes highly difficult for employers at the individual level.

C) Implementation and Enforcement Bottlenecks

In addition to challenges rooted in policy and city-level constraints, workers' housing conditions are further undermined by the following deficiencies in implementation practices.

ix. Non-involvement of Professional experts for design

Neither the BOCW Act 1996 nor the local governing framework of Mumbai demands involvement or validation of the spatial and structural design of workers' housing facilities from professional experts like architects or structural engineers. As a result,

most commonly the housing facilities of workers are designed and built by the contractors and workers, who are minimally skilled or trained for designing habitable spaces, resulting in poorly planned and built structures, which exhibit issues like inadequate light and ventilation, irregular room sizes, open joints between wall and ceiling, wrong materials like metal sheets, which lead to entrapment of heat, etc.

x. Financial liability and Inadequate design knowledge of contractors

The financial and logistical responsibility for housing rests solely on contractors. Further, as revealed from interviews, most of them are unaware of NBC standards prescribed for workers' housing and also lack ideas to build decent housing facilities within the plot constraints. Faced with tight margins, neck-to-neck market competition, irregular and inadequate land parcels and poor design knowledge, contractors tend to build poor-quality metal enclosures, which expose workers to hazardous health conditions.

xi. Violation of statutory area requirements

While international and certain domestic benchmarks suggest a minimum of 3.6 sq. m. per person, the multi-purpose use of single-room units for cooking, sleeping and storage reduces the effective living area to approximately 2 sq.mt per capita. This creates a high-density environment that poses significant health and fire risks. Table 2 summarises the above findings.

8. DISCUSSION

As illustrated (Figure 3) in the chart above, it is evident that the social inequity in migrant construction worker housing is triggered by systemic failures, which lead to the development of other challenges and difficulties at the city and execution levels. The

analysis highlights the systemic gaps, such as the absence of a comprehensive dedicated policy for construction workers' housing, non-enforcement of design standards and lack of governing procedures for ensuring housing quality for construction workers, as the top-level failures, leading to the second level of challenges experienced at the city and execution levels. The city-level challenges include the absence of officially reserved land in development plans or rental housing stock dedicated to migrant construction workers' housing and site planning regulations that fail to acknowledge the need for land within construction sites, resulting in workers' housing shelters being built on irregular, fragmented parcels of land or within under-construction buildings. The execution level challenges include the non-mandate of involving architects in the design process, inadequate design knowledge of employers for building healthy housing facilities and financial constraints of employers leading to compromise in housing quality. The outcome of these challenges can be seen as construction workers residing in substandard temporary housing facilities in the hidden pockets of the city, in detrimental housing conditions. Inadequate governance further supports employers' volition by reducing the accountability of employers to just one rule, viz., providing temporary accommodation, encompassing all other standard violations without any fear. In this manner, the systemic failures create a domino effect on workers' housing, socially excluding them from the mainstream city and impeding the principles of social equity and urban sustainability.

9. CONCLUSION

This study concludes that the detrimental living conditions of construction workers in Mumbai are the result of a "domino effect" of systemic failures. While high land costs and spatial constraints in a hyper-dense megacity like Mumbai create significant logistical hurdles, the root cause lies in a fragmented policy landscape that lacks enforced quality standards and legal accountability. The research highlights the fact that, although these housing facilities are classified as "temporary," they serve as de facto homes for workers for 15 to 25 years of their professional lives, yet they remain severely under-regulated and under-designed compared to the formal housing sector. Ultimately, the current system grants employers the liberty to prioritise financial optimisation over human well-being. Breaking this cycle of neglect requires inducing accountability through legislative reform, professional design intervention and city-level spatial support to ensure that the builders of the urban future are not themselves relegated to hazardous and undignified living conditions.

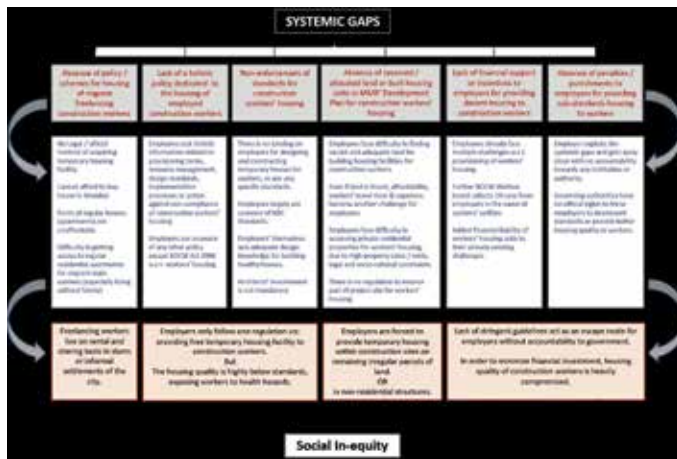


Figure 3: Flowchart describing the domino effect created by systemic failures impacting the housing conditions and leading to Social Inequity of migrant construction workers in MMR

Source: Author

10. RECOMMENDATIONS

The current status of fragmented policies and their impact on workers' living conditions suggests a need for a consolidated policy that focuses on the quality of construction workers' housing, providing the minimum standards and design guidelines for contractors/ developers. For the same, the following interventions are recommended.

A) Legal enforcement of standards for workers' housing

To eliminate the current voluntary nature of housing quality, the design standards prescribed for workers' housing in NBC 2016 need to be integrated within the BOCW Act 1996 and/or Mumbai DCPR 2034. This can also be done in the form of a dedicated graphical handbook that can help employers understand and implement the right design strategies for achieving healthy housing conditions for workers. Further, the implementation and execution of proper housing for workers should be a mandate for the approval of projects. Fines to be made liable for non-compliance with policies.

B) Professional Oversight for quality validation

Involvement of Architects and Engineers should be made a mandate. These processes can be helpful in inducing accountability, leading to a more responsible approach by employers towards workers' housing. Implementation of the enforced standards should be validated with the help of governing procedures like design approvals, occupation certificates, regular inspections and strict actions for non-compliance.

C) Land Allocation

Lack of land is the major challenge faced by employers; strategies need to be made for making land or residential property available for workers' housing. One of the strategies could be mandating construction in phases, where a certain area of the plot can be kept reserved for workers' housing. The second way could be building large labour camps in the city at regular intervals, which can be used by employers on a rental basis for accommodating their employees. These strategies can help in reducing employers' land-related challenges and help them get direct access to decent land or property on a rental basis.

D) Financial Support

The BOCW Welfare Cess is collected from the employers for workers' welfare. This money can be used for developing workers' housing communities in the city, which can be used by employers for accommodating their employees. In case this facility

may not be feasible for a project, incentives or financial support can be provided through the same for building workers' housing facilities. This support can not only minimise the financial and logistical burden from the shoulders of employers, but also automatically ensure standardised housing quality, better amenities and enhance living conditions for workers.

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NEWSLETTER JUNE

JUNE 2026

IIA Delegation at the UIA World Congress of Architects 2026, Barcelona

The Indian Institute of Architects (IIA) marked a strong presence at the UIA World Congress of Architects 2026 held in Barcelona, Spain, with a large and distinguished delegation led by Ar. Vilas Avachat, President, IIA. The enthusiastic participation of IIA members reflected the Institute's continued commitment to strengthening India's presence within the global architectural community.

A major highlight of the Congress was the inauguration of the IIA Pavilion at The Design Museum of Barcelona (DHUB), Barcelona by His Excellency Hon'ble Shri Inbasekar Sundaramurthi, Consul General of India, Barcelona, in the presence of Ms. Aarsha N.S., Consul & Head of Chancery, Consulate General of India, Barcelona. The pavilion showcased India's

architectural excellence, the activities of IIA, and promoted the forthcoming UIA International Forum 2027, to be hosted by IIA in Mumbai.

The General Assembly of the International Union of Architects (UIA), held in Barcelona, elected the members of the UIA Council for the term 2026–2029. During the Assembly, Ar. Debatosh Sahu was elected as Vice-President, Region IV of the UIA Council for the term 2026–2029, marking a significant achievement for IIA and further strengthening India's representation and leadership within the global architectural community.



Figure 1: Hon'ble Shri Inbasekar Sundaramurthi, Consul General of India, Barcelona, inaugurating the IIA Pavilion at DHUB Barcelona during the UIA World Congress of Architects 2026, in the presence of Ms. Aarsha N.S., Consul & Head of Chancery, Consulate General of India, Barcelona, Ar. Vilas Avachat, President, IIA, and IIA delegates.



Figure 2: Group photograph of the IIA delegation with the Consul General of India, Barcelona, and the Consul & Head of Chancery, during the UIA World Congress of Architects 2026.



Figure 3: Ar. Vilas Avachat, President, IIA, presenting a memento to UIA Officials during the UIA General Assembly, Barcelona.



Figure 4: Ar. Vilas Avachat, President, IIA, addressing the UIA Member Sections during the UIA General Assembly, Barcelona.



Figure 5 : Shri Inbasekar Sundaramurthi addressing the group of Indian Architects



Figure 6 : Shri Inbasekar Sundaramurthi in a candid conversation with Indian Architects inside the pavilion



Figure 7 : Indian Architects on behalf of IIA holding the National Flag on stage at the UIA General Assembly

During the UIA General Assembly held on 5 July 2026, the IIA delegation presented the preparations for the UIA International Forum 2027, which will be hosted in Mumbai from 23–28 September 2027. A promotional video highlighting the Forum, its theme of 'Urban Regeneration', and Mumbai as the host

city was screened during the Assembly and was well appreciated by the delegates. The IIA delegation also extended a cordial invitation to all UIA Member Sections to participate in the Forum, reinforcing India's commitment to international collaboration and the exchange of architectural knowledge.

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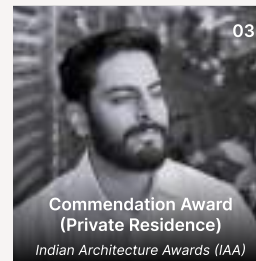
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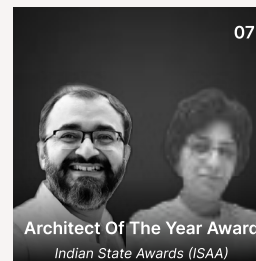
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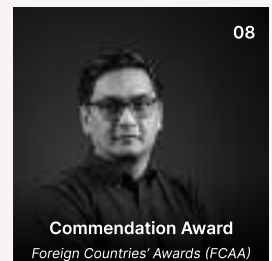
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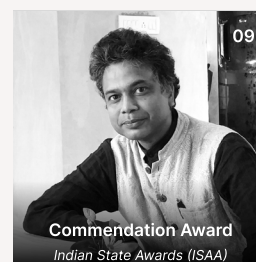
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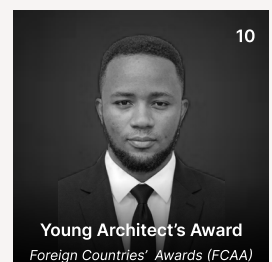
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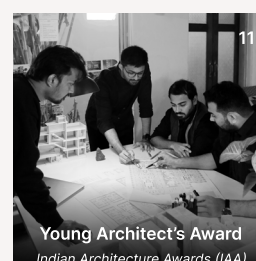
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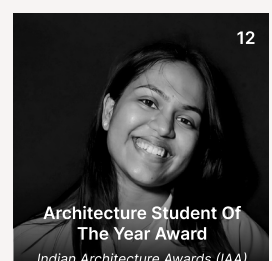
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