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The objectives of education, the academic approach and the expected outcome have changed over eras. Education in *Bharat* since ancient times has been governed by spiritual systems with an indigenous approach. Our long and complex history has embraced innumerable multicultural and multi-religious viewpoints on education. With these, the objectives of education, pedagogic methods and anticipations have also changed. Notwithstanding the dissimilarities, the incipient of any educational system dwell in its philosophical underpinnings. "Education" does not necessarily relate to nor is limited to the occupations of people, but instead ethically contributes to innate behavioural consistencies or changes. Sociologically, education is intended to be instrumental for the preservation and transmission of culture which was seen in the outcome of architecture of those times. And we know that with advancement of modern technology also we have not able to create the similar experience in our contemporary architecture.

Bharatiya systems of education because it is imparted under two main categories: *paravidya* or spiritual knowledge and *aparavidya* or material knowledge. While the former was usually transmitted by religious institutions, the latter developed eventually into universal streams of education at the stages of primary, secondary, higher, technical education, etc., as we know it today. The imparting of education through *gurukuls* (residential institutions for basic levels) and *vidyapeeths* (for higher learning) was done through three modes:

- *shravan* or listening to oral recitations
- *manan* or the memorising and subjective interpretation
- *nidhidhasan* or the understanding, assimilation and application

The archetypal shift to the 'objectives, pedagogy and the outcome' of Indian education system has obvious roots in the Colonial period. Western education systems were characterised by reforms in education systems, acts and policies which steered Indian education solely towards the *aparavidya* of modernisation, industrialisation and creating workforces for labour and service. The altered curricula were rarely questioned by the newly (western-) educated Indians, eventually leading to the exclusion of indigenous knowledge and

culture. This was very well demonstrated in our architectural curriculum where the creation of the workforce of draftsmen required by the British Raj was the objective of architectural education in India. Today, educational institutions, at all levels, are influenced by 'global' standards which prophesy universality and propound a lucrative future (albeit backed by education loans) in global marketplaces. The goals of *paravidya* that centred on the holistic development that prepared one for life, took a back seat or all but disappeared.

It is imperative that contemporary systems of teaching and learning of architecture education has the pressing need of a hybrid, value-based education which combines both *paravidya* and *aparavidya*. This would require the merging of ethics and skills-contemporary and traditional systems, building strong spiritual and practical foundations, cognitive and experiential- a complete palette, as it were, which would well serve the society at all levels of life and living- through the outcome of architecture. Therefore, it is time to introspect and recreate belief in our approach of *Bharatiya Sthapathya* to lead the world for a better built environment serving the humanity.

Warm Regards

Prof. Vinit Mirkar

Editor



Ar. Vinit Mirkar

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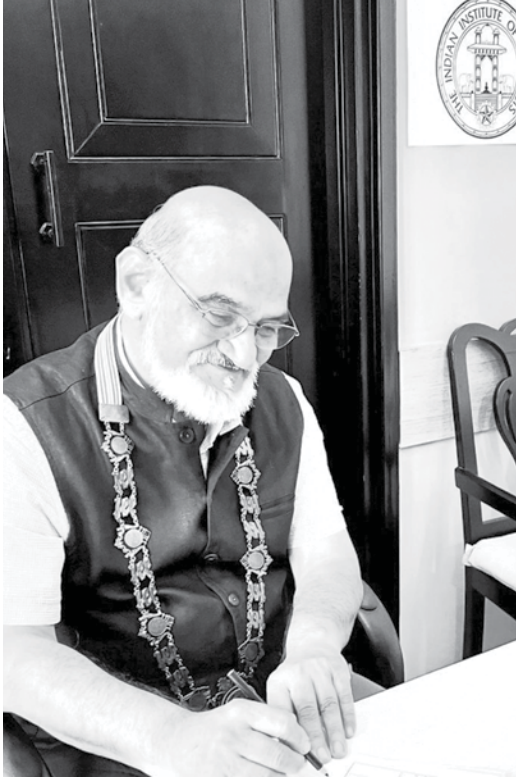


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Greetings to all fellow architects!

This month we celebrate Teachers Day to mark the birth anniversary of Dr. Sarvepalli Radhakrishnan, the former President of India. Teachers have always been the architects of the nation as they develop human resources. They have always encouraged and promoted students towards their success. Teachers of architectural education provide the unique prospect of making a transformative and eternal impact on the lives of others, contributing to shaping sustainable futures and offering personal fulfilment.

I congratulate our Hon'ble Prime Minister, Narendra Modi for looking into education as an important part of nation-building and announcing the National Education Policy (NEP 2020) and keeping in view the requirements of a modern and developed Bharat. The *Akhil Bhartiya Shiksha Samagam 2023* was inaugurated on July 29 to mark the third anniversary of NEP 2020. It seeks to provide greater autonomy to educational institutions and promote academic mobility. The new system is student-centric and expressed through core essentials. It is necessary to create an awareness regarding changing educational trends amongst academicians in architecture. This will create opportunities for India to lead architectural education in the Asian region. During my visit to the *ACA 20 ARCASIA Awards for Architecture 2023 (AAA)* held this year at Boracay Island, Philippines from 17 to 23 September 2023, it was clear that India has made a mark in all committees by taking the leading role in propagating the importance of our contribution to architecture of the region and NEP in the shaping of the future of architectural education.

We also need to consistently strive to become carbon-neutral by 2070 as committed by our Hon'ble Prime Minister Narendra Modi. And architecture education shall take up this responsibility to educate the young professionals to become proficient with technology and indigenous wisdom to attain this goal.

I appeal to all young architects to take up this challenge to show the world our creative capabilities to address sustainability in the built environment. We are sure that with an inclusive and sensitive approach as IIA professionals, we will be able to promote the idea of *Vasudhaiva Kutumbakam*.

We appeal to all the members and affiliated colleges to keep sending articles for publishing in our Journal of IIA.

Warm Regards

Ar. Vilas Avachat
President, IIA

विद्या विनयेन शोभते

Humility is the adornment of Knowledge



या देवी सर्वभूतेषु शक्ति रूपेण संस्थिता
नमस्तस्मै नमस्तस्मै नमस्तस्मै नमो नमः

Saraswati Devi is the deity of knowledge, wit and creativity in all arts. Her name is a derivation from the Sanskrit *saras* which means 'dynamism' and *waith* which means 'woman'. Goddess Saraswati is the symbol of Vedas. Just outer rituals are insufficient to attract Her blessings. In order to worship Her, it is essential to understand Her *swaroop* or her perceived form which encompasses all knowledge. Since knowledge is limitless, for the devotee who seeks her blessings in the aspiration for knowledge, a constant curiosity and a humble attitude for imbibing is necessary. No matter what the current level of the *jeev*, it is always possible to achieve the higher stages of knowledge and talent.

The concept of the diagram of the *Saraswati Yantra* as a symbol of knowledge and education has been recognized since ancient times in India. It is the expression of the *sagun* (manifest) and *nirgun* (perceived) principles. Its design is based on the strong geometry of a triangle, which has an important place in architecture. Its resonating units which expand upward expressing the ever-increasing development of knowledge. The three sides of the triangle represent the harmony of mind, body and intellect. This diagram, is symbolic at three levels :

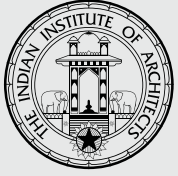
- The levelled base represents *dneyanshakti* or the foundation given by true knowledge.
- The connecting lines of force show the direction of the movement of the energy of action, shows *kriyashakti*.
- The curves at the top represent the concentration of the *shakti*, which is the denotation of *ichhashakti*.

The *Saraswati Yantra* also works at the threefold levels of *anand* or bliss, *shanti* or peace and *shakti* or energy. While knowledge arises out of the application of the information learnt, wisdom is the ability to use that knowledge as relevant. And so wisdom goes far beyond the simple knowing of facts and inherently comprises knowing how and when to apply those facts in the correct context. Hence, knowledge and wisdom are indivisible. The complementary colours of yellow and purple of this composition characterize the corresponding arrangement of *saguna* and *nirguna* through solid and void. While yellow denotes 'known' knowledge, purple indicates the constantly enlarging boundaries of unknown knowledge.

The *Yantra* hence is emblematic of knowledge management systems that in contemporary terms, derives, organizes and retrieves information required to take action. At its root is the channeling of collaborative energy to ensure the smooth activation of all processes.



Ar. Pratik Dhanmer (A24541) is a graduate from the Academy of Architecture, Mumbai. Living in his native village of Vetli Murbad, he practises *Design Jatra* philosophy not only in his architectural work and teaching, but also in his day-to-day routine. He enjoys bringing the 'fun and the crazy' to *Design Jatra's* designing process and the structures they build with his extraordinary conceptualization of ideas. Since he is the closest to the community of Vetli Murbad, Pratik takes up lot of participatory initiatives. He is involved deeply in trying to democratize this village's governance through various rural policies and *gram sabhas*. Pratik also handles the farming initiatives of *Design Jatra* and is an integral part of the seed conservation initiative. He loves teaching, which he does at the IES college of Architecture, Mumbai as Assistant Professor. He also routinely teaches kids in the Vetli Murbad village. Pratik is a multi faceted personality with a keen interest in sketching, theatre, poetry and films.
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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/7pDFva1HdH4hfUyj8>

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/hyhsCoK6QP6qDJu8>

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/Ru4JBLSHwaYEBtcg7>

(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

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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 : Cover Design

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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 will be adjusted as per the layout requirements of the JIIA Cover.

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 : jiiateditorial@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
8. professional or academic work.
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10. All authors are requested to refer to further detailed information available on the JIIA website.

International Post Graduation as the Trajectory of Career Paths

By Prof. Dhiraj Nandkishore Salhotra and Ar. Smit Goghari

1. Background

Design and architecture depend on the very common language of drawings and details. This allows a certain sense of globalization and universality to the domain. At the same time, architecture is rooted in the locale through its culture, climate, practices, and policies. These local sensibilities develop a unique and peculiar approach to architecture and design solutions worldwide.

Exposure to these learnings can help enhance an individual's outlook toward problem-solving and design development. At the same time, the value of design as perceived globally, varies heavily. In certain parts of the world, design is a necessity, in others a luxury, and in some parts and time, too overrated. This also creates a dilemma in a young architect's mind as to how one can find value in the learning and effort they have already taken up in the rigorous journey of five or more years in achieving a bachelor's degree in architecture.

This concoction of prospect, value and opportunity to learn are the primary reasons a graduate of architecture looks abroad, with a sense of hope to resolve and come through this entanglement. Although it may seem straightforward for a student that education and a career abroad should lead to a more fulfilling life, the answer can be a bit more nuanced.

2. International Immersion

The distinct reason that most graduates opt for a postgraduate degree abroad is the leap in career

growth and the advantage of being absorbed in the international job market. Most of the students make the choice of their program keeping in mind their area of interest, the overall status of the university and program, and the financial liabilities and planning. It is often found that the students drift from the specializations acquired and end up getting placed in allied sectors due to the immersion experience, backed by a (STEM-based) post-graduation that allows them convenient absorption in the international job market, while they remain protected due to the minimum wages laws. It may be noted that such shifts are very common and are notably farfetched domains from the area of specialization, undertaken during the post-graduation.

3. Groundwork

Education abroad is as much about learning as it is about financial planning. As we all know, student debt is an all too common talking point in the United States (just ask Hasan Minaj). Debt in India is very different from that in the US as usually if debt is needed, it will be borne by the parents of the pursuant. A student should be well aware of the cost, rate of interest on the loan, and how long it will take to recover from it in a realistic scenario. This is the first check each student should be clear about.

The candidate must be well aware of the overall cost of living and program costs (as some programs insist on taking up additional credit-based courses) that are not part of the fee component. Scholarships are available under various criteria and students can



Fig. 1: Career Guidance in Education in the UK at UAL

prepare well to avail the same (in most cases they are for early applications received).

Deciding in advance on the program, institution location, and listing options of not more than 2 or a maximum of 3 is an effective strategy to reduce overall application costs and confusion. Focused applications to select a few Institutions ensure that the decision is well-formed. Certain institutes have early admissions and some are delayed. The biological cycle of each Institution is unique, and thus to secure admission applicants sometimes face challenges of blocking investments in multiple institutions, increasing the incidental financial burden.

In a few Institutions students are given research or teaching assistantships that contribute as a way of managing daily expenses while working on campus. The allocation of such responsibilities largely depends upon the profile submitted with testimonial evidence and abilities witnessed during on-campus training.

If finances are in control and manageable, then the next focus should be on the institute and the courses they offer. Universities abroad pride themselves on their legacies. Getting oneself admitted to the Ivy League or the British Russell Group is a complex challenge that involves current grades, past performance, socio-cultural contributions, vibrant SOPs, and sharp LORs. Graduating from them has its own social/ implied career significance.

International Institutions prefer candidates that have overall development with sensitivity towards societal contribution, team person, learning attitude, and attributes other than scholastic viz. hobbies and zest for exploration, emotional stability, and ability to adapt to different team members. Thus, while preparing for an application, the candidate must

include testimonial evidence of achievements in listed areas in addition to the academic achievements, even in the Letters of Recommendation received by the Mentors. Contribution towards society and work for charitable organizations has special weightage viz. undertaking charitable tasks, participation in cleaning drives, adult education, donation drives, etc.

In architecture today, there are a plethora of courses that focus on design, management, art, and conservation, and the list is endless. A student should focus on getting the right combination of the desired course and the best universities offering the same. It is only then, that one can foresee a desired outcome to the quest for education abroad.

Also important are the aspects of credit transfer, scholarships, and living costs. All three, if planned well, can significantly reduce the burden of the cost associated with coursework. A reduced credit requirement can help in completing the course earlier and allow one to become self-reliant.

In this maze of choices, preparations must be made early. Students should start pondering their prospects from the 7th or 8th semester of architecture in order to gain more clarity and understanding of various needs that come along. Exams on technical or mathematical knowledge may also be needed depending on the course and country of choice.



Fig. 2: Student Counseling session for study abroad; Edwise

4. Dilemma

The choice of an International venue for the pursuit of a Master's Program is often based on the currency conversion rate as the program cost and living costs are associated with it. Many programs, in the same country but in different cities, may prove cheaper than others depending upon the cost of living, travel, and other incidental costs.

The candidates, seeking a post-placement, must have clarity on the market absorption capacity of



Fig. 3: Student Counseling session for study abroad; SI-UK

the chosen International venue. The size of the city, projects, population, and demand for expertise are all limitations that come with a location. A venue that is not very strategic, or one that offers lower overall costs, also poses challenges in finding the right/high-paying jobs, though sometimes they act as transit venues, for stepping up to strategic locations/bigger cities later in a career.

The choice between a government and non-government institution, though having similar programs may have distinctly different cost variations and campus conditions. The USP of each Institute is different, thus understanding the detailed course content and value addition that the program offers is an essential requirement.

Oh, and yes, if you have come this far on this article; if you could read through all that we had to say, the course you choose may also need to verify your competency in your ability to read, write, speak and hear the language in which the course will be conducted. The applicants must fulfil the basic criteria of language tests and procure the prerequisite scores in expected tests to be eligible.

5. Key Takeaways

By the end of the article, we wish the reader to re-investigate the venue for immersion, widen the scope of domain choice, and possibly identify a path less chosen for excellence and results. It's safer to focus on the future of placements in the International venue, right at the outset and gradually work towards it. The selection of the city and country for the pursuit of a Master's plays a significant role in creating trajectories of job opportunities. Being open to allied domains that are in demand rather than core-centric programs may prove healthier in terms of their returns on investment.

The investment in preparatory work, before applying to the Institutes, will prove more beneficial rather than choices driven by peer tastes. The background



Fig. 4: Session on portfolio, LOR, SOP preparation; University of Nottingham

work that creates opportunities for scholarships, part-time work and better internships followed by placements is the right path to track even before the applications are made. Targeting the right programs with the right preparations and the right venues that offer prosperous opportunities is something that needs good thought before we plan to bid adieu to any prospective post-graduate immersion program.

All Images courtesy: Authors



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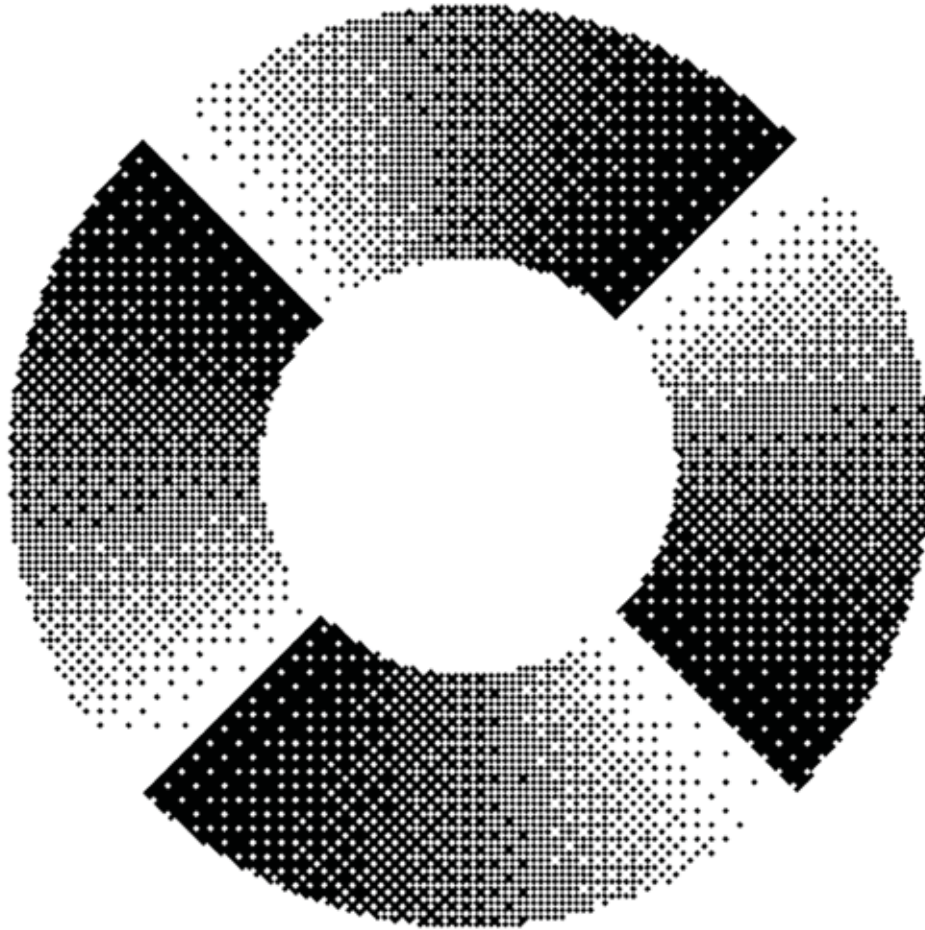


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Education and Technology Tools and Design

By Dr. Soma Anil Mishra



In a field as diverse as ours, theory has been the basis of practice, where each one has been driving the other. Through the different times came certain challenges which were overcome by the techniques, methods, and innovations developed by the period's geniuses.

As education used to be seen as a driver of 'change' and innovation itself, we focus now on tools rather than their applications - Open AI, Bard, Mid journey, Open Plan, etc. I would pose that the value of good education still upholds.

Dreams of every generation build on not only the ones that came before but the aspirations and freedoms through technology are only ever enhanced - and if you saw the recent movie *Oppenheimer* by Nolan, each one has a positive as well as a negative connotation depending upon the use in case.

Through all of this, your teachers would still tell you to read, to stay off paraphrases (which you might still end up using in practice), to ward off AI, and to generate your own ideas. What is the reason? Do teachers push for old-fashioned technology? Do we have trouble keeping up with all these new pop-ups? No, and Yes, being conscious, and taking time has been something the current generation has been devoid of - with instant gratification at our fingertips, there are characteristic changes not only to our society but also to our brains! In times like these, books, newspapers, and open communication allow us to pause, take in a more conscious approach to our way of design, and put people/humanity back at the center of this whole practice.

'To sit with' yourself, your designs, the place, and your thoughts make a difference - how else would you know what the brick wants to be?

As a designer and an architect, it takes a lot to be in tune with the times - for the professors, it means to see these tools, and build an ever-budding understanding; for the students, it means an ever-increasing toolkit of sorts that can be used to be a better architect in the end, or, to be just enough to pass. You choose what you want to be.

This Teachers Day, if something resonates, let my only thought to you be the application and the human part of these tools - where tool-based approaches are applicable only when you have 'something useful to say'. The best tools cannot make a famous artist without their practice, or human skill. Which is only possible if your needs are met.

As academicians, it is our duty, and necessary to our times, to realize the enormous gaps rendered bare

by such technological tools - the fissures that have always existed, be it between genders, urban areas, generations, etc. This requires a good base if we as architects wish to teach and practice good design. And as Maslow says, there's no way of teaching at the top without satisfying the very obvious and simple needs at the bottom. Realizing this - the power we all have and the responsibilities we have towards each other, it starts with me and you.

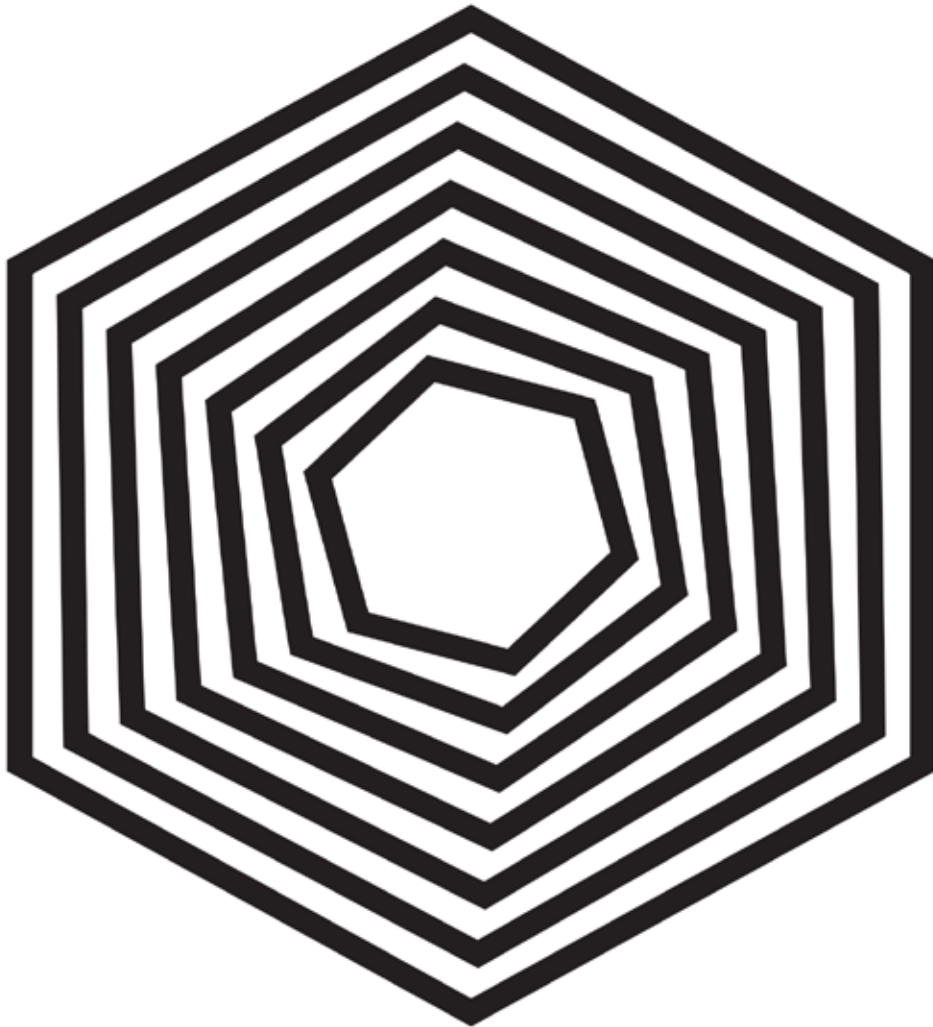


Dr. Soma Anil Mishra (A18203) is an Architecture graduate of 1993. She was awarded a PhD in Architecture from R.G.P.V Bhopal. She has more than 27 years of teaching experience along with 7 years of administrative experience, and is currently working as the Director and Head at Institute of Architecture and Town Planning, Bundelkhand University, Jhansi (U.P).
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Bridging the Gap between Profession and Academics

By Ar. Keshav Chikodi and Ar. Uday Satavalekar

*Gurur Brahma Gurur Vishnu Gurur Devo Maheshwara |
Gurur Sakshat Parabrahma Tasmai Shree Guruve namah ||*



This Sanskrit *shlok* highlights the importance of the Guru who is part of our rich culture and heritage. It means that, a Guru or teacher is a representative of the Holy Trinity of Brahma, Vishnu and Mahesh: the One, who creates, imparts knowledge and destroys the darkness that prevails within. Teachers are the backbone of the nation and the pillar upon which all aspirations can be converted into realities.

Teachers' Day is celebrated every year on 5 September in commemoration of the birth anniversary of the second President of Bharat, Dr. Sarvepalli Radhakrishnan. This day acknowledges and highlights the contribution of teachers. On this day, students express their gratitude and respect towards their Guru for always being a guiding beacon and a ray of hope.

As we all know, there is a gap between academics and the architectural profession. In the life of a building project, the role of an architect is comprehensive. It starts with collecting documents from the client that are necessary for taking approvals to having the Completion Certificate issued from the municipal authorities and a wide range of activities in between. Since the majority of the colleges happen to be in urbanized areas, students are aware of a property card as a document of ownership and the city survey as the map of the property. In Maharashtra, the moment one leaves the city area, the ownership document is the 7/12 extract and the survey map of the property is issued by the Taluka Inspector of Land Records (TILR). For a fresh architect, who just graduated from school, reading the 7/12 extract and its nuances along with the TILR survey could be nothing less than a nightmare. Hence, there is a need to expose students to a variety of documents that are needed for a building project, and understanding their importance.

The profession has been affected by various rules, regulations and acts like RERA, GST, DCPR 2034 for Mumbai and, UDCPR, 2020 for the state of Maharashtra during the last decade. The Parliament of India enacted '*The Real Estate Regulation and Development Act, 2016*.' The Act establishes a Real Estate Regulatory Authority (RERA) in each state for regulation of the real estate sector and also acts as an adjudicating body for speedy dispute resolution. The Act came into force on 1 May 2017. RERA completely changed the definition of 'carpet area'. According to RERA, 'carpet area' means:

The net usable floor area of an apartment, excluding the area covered by the external walls, area under services, shafts, exclusive balcony or verandah area and exclusive open terrace area, but including the area covered by the internal partition walls of the apartment.

So the carpet area as per RERA includes internal partition walls but excludes areas under external walls, balconies and terraces. Whereas, as per Maharashtra Ownership Flats (MOFA) (for the regulation of the promotion of construction, sale, management and transfer Act, 1963), the carpet area of the flat included the area of the balcony as well. One of the major tasks performed by Intern architects and junior architects in architectural firms is calculating RERA carpet areas and usable carpet areas. In our interaction with students during their internship, we understood that this important Act and its ramifications on the profession need to be addressed in the lecture.

Internship is part of the architectural curriculum which gives students an opportunity to gain real life experience. This opportunity can be seen as a stepping stone in the greater career goal of the students. So, students need guidance on selection of architectural firms for internship based on size, type of projects, whether residential, commercial, institutional, etc., along with the type of practice - architecture, interiors, landscape, etc. - and their pros and cons.



Ar. Vijay Pandey interacting with students of IDEA College, Nashik



Ar. Shirish Nachane, Ar. Sandeep Patil, Ar. Jayraj Ghatge interacting with the students of Viva School of Architecture, Virar

In engineering colleges, especially in the courses of Computer Science and Information Technology, there are campus interviews during the 7th and 8th semesters. So, engineering students don't have to run around searching for jobs. But, this is not the case of architectural colleges. Some of these have started placement cells where resumes and portfolios of students are collected and forwarded to firms that are connected with the college. But this is not the case in all colleges. The majority of job opportunities for architects are in private architectural firms. But, there are job opportunities in government institutions like CPWD, MHADA, CIDCO, MMRDA, public sector banks and insurance companies, etc. which students need to be made aware of. Also, some students may be knowledgeable and possess good communication and leadership skills which are must for an IAS officer. A graduate degree enables architectural graduates to apply for UPSC and MPSC exams and become civil servants. Architects generally visit the corporation headed by the commissioner for taking approvals of their building projects. The commissioner of a corporation or collector of a district has sweeping powers to bring about positive change in their community. One can just imagine the change an IAS officer with an architectural background can bring in the conception and implementation of development projects. So, creating awareness amongst architectural students about various career options after the B.Arch. degree is necessary.



Ar. Vinay Deogaonkar interacting with the students of Pillai College of Architecture, New Panvel



Ar. Dhanashree Bhosale interacting with the students of Dr. Baliram Hiray College of Architecture, Bandra

Also, some students may be interested in starting their own firm at some point in their careers, a task easier said than done. Instead of relying solely on just textbook information, interaction with practicing architects and learning from their experiences can guide students in shaping their dream of becoming an entrepreneur.

Undoubtedly, the USP of all architects is 'vision, creativity, and design aesthetic' but in practice it is part of a larger piece of the puzzle. There are many interconnected aspects that have to be taken care of to complete a successful project and run an architectural practice. In our opinion, the emphasis on design in schools has to be balanced with other aspects of professional practice to reduce gap between academics and profession.

During our school days, on Teacher's Day, senior students used to teach us and experience the joy of educating others. Another Sanskrit *shlok* which underscores the importance of sharing knowledge is:

*Annadanam Param Danam Vidya Danam Atah Param |
Annen Kshanika Truptiryavajjeevam ch Vidyaya ||*

Translated, it means that, 'giving food is the greatest charity but giving knowledge is even greater than that because food provides momentary satisfaction whereas knowledge is forever'.

Keeping these views in mind, IIA Kalyan Dombivli (KD) Centre decided to celebrate Teachers' Day in a unique way by holding guest lectures in various colleges of architecture: as professionals, we considered it our duty to fill this gap with guest lectures themed upon 'Bridging the Gap between Profession and Academics', where we spoke about much-needed issues on internship, professional practice and entrepreneurship.

Twenty-six speakers from IIA KD Centre held these talks in eleven colleges in the Mumbai Metropolitan Region (MMR) and Nashik Region :

Many of the speakers were alumni of the respective colleges they visited. This gave them the nostalgic experience of re-living their college days' memories. They were able to interact with around 800 to 1000 students and helped them connect the worlds of academia and the professional sphere with detailed information about relevant aspects of architectural practice, using real-life examples: a collection of documents required for starting the project, life-cycle of the project from conception to completion, how to select an architectural firm for an internship, what they could hope to gain during internship, career options and job opportunities after completing the B.Arch. degree, how to start their own office, new avenues and many others, followed by question and answer sessions.

Name of College / Institution		Name of the Speakers
1.	Rachana Sansad's Academy of Architecture, Prabhadevi	Ar. Keshav Chikodi, Ar. Ankur Shetye
2.	Sir J.J. College of Architecture, Fort	Ar. Swati Nachane, Ar. Nikhil Dudhe, Ar. Aditya Agte
3.	Viva School of Architecture, Shirgaon, Virar	Ar. Shirish Nachane, Ar. Sandeep Patil, Ar. Jayraj Ghatge
4.	Vidyavardhan's Institute of Design Environment and Architecture (IDEA), Nashik	Ar. Vijay Pandey, Ar. Samir Shinde
5.	Pillai College of Architecture, New Panvel	Ar. Vinay Deogaonkar
6.	L.S. Raheja School of Architecture, Bandra	Ar. Aniruddha Dastane, Ar. Sandeep Paranjape, Ar. Rajesh Bhise
7.	Bharati Vidyapeeth College of Architecture, CBD Belapur, Navi Mumbai	Ar. Dinesh Yadav, Ar. Ninad Vaidya, Ar. Vikas Padalkar, Ar. Omkar Bhagat
8.	Lokmanya Tilak College of Architecture, Kopar Khairane, Navi Mumbai	Ar. Nimish Daftary, Ar. Jaydeep Sinha
9.	B.R. Harne College of Architecture, Vangani, Badlapur	Ar. Uday Satavalekar, Ar. Vivek Vilekar, Ar. Swarada Vinod
10.	Dr. Baliram Hiray College of Architecture, Bandra	Ar. Dhanashree Bhosale, Ar. Shailaja Vaidya
11.	Indala School of Architecture, Titwala	Ar. Anil Bhingarde



Ar. Dinesh Yadav, Ar. Ninad Vaidya, Ar. Vikas Padalkar, Ar. Omkar Bhagat interacting with the students of Bharati Vidyapeeth College of Architecture, CBD, Belapur, Navi Mumbai

The feedback from students and faculty was overwhelming. These talks were an eye-opener for many students as some of the topics went more into depth than what had been discussed in their colleges. Majority of the students found the career options and job opportunities especially in the government sector very interesting. Many students came forward to request the speakers to cover more topics in the future, such as the reasons for low salaries of junior architects and challenges faced in architectural entrepreneurship. They even requested the speakers to help them connect with professionals by conducting visits to architectural firms.

This points to the kind of practical information required by the students as they step out into the professional world. Through this initiative by IIA members, we tried to give back to our alma maters and the future generations of architects, as the real tribute to our teachers on this Teachers' Day.

All Images Courtesy: Authors



Ar. Keshav Chikodi (A13515) is the Chairman of IIA Kalyan-Dombivali Centre (2023-2025). He has graduated from Academy of Architecture, Mumbai and done his M.Arch from University of New Mexico (2001). He is empaneled with banks and financial institutions as an architect valuer and won several design competitions including ARCI, Hyderabad (GOI) and the Science and Innovation Activity Centre at Amaravati, Maharashtra. He has also been invited as a guest speaker by various colleges and professional organisations. He has been the Secretary of IIA KD Centre (2020-2023).

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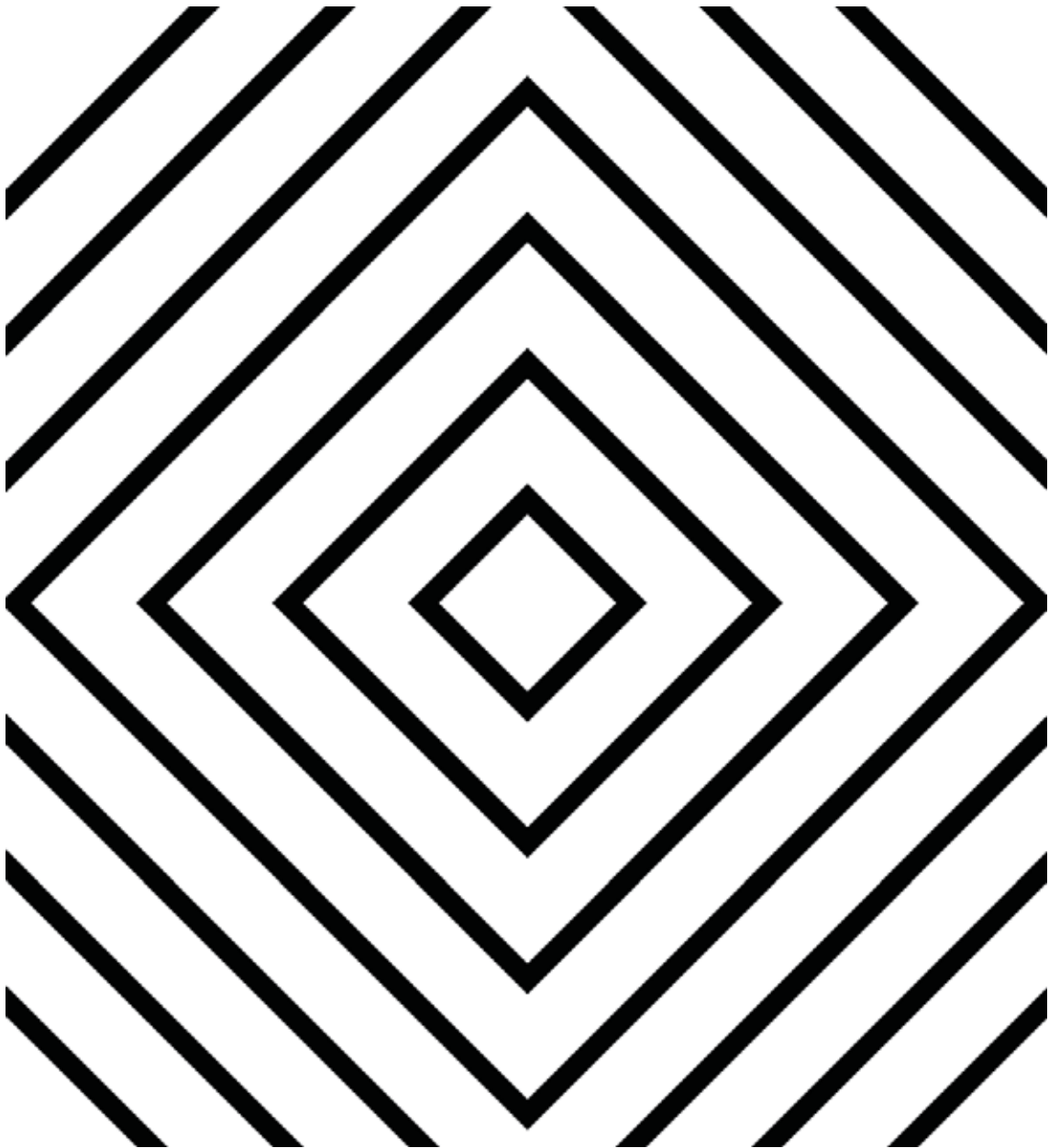


Ar. Uday Satavalekar (A20417) is the Secretary of IIA Kalyan-Dombivali Centre (2023-2025). He has graduated from Pune University and has over 25 years of experience in the construction industry. He practices especially in KDMC and surrounding areas. He has been an Executive Committee Member of IIA KD Centre (2020-2023).

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Architectural Education Today

By Prof. Suresh M. Singh



Architectural education plays a compelling role over the changing times. The pedagogy and the outcome in the form of different drawing representations have evolved. The process of admissions, involvement of new policies, and geographical locations of architectural institutes are interlinked with an impact on architectural education. I put forth my views on various themes revolving around and associated with architectural education in the contemporary context.

1. Authenticity of Production

Architectural education in the last three decades has significantly transitioned from the drawing board and hand drawn sheets to digital presentations. Students are more seasoned and equipped with the changing modes of production which are mechanized and digital as opposed to the bygone of using large drawing boards and drafting working drawings. There are advantages and disadvantages to this situation. While replicating and editing the drawings is very easy and fast in the digital mode of production, it is also very tempting for a young mind to get ready-made drawings and information from various sources. Therefore, the role of architectural institutions becomes very important. We have to be more vigilant during the process of education of a young student to ensure that the work generated is indeed her/his original work and is not plagiarized.

2. Architectural Education in the Age of Digitization

Many years ago, no one anticipated that one could have an online viva or an online exam without the presence of the student in the studio. The situation has changed now where not only are online exams conducted easily but online presentations from remote locations are also accepted. The advantage of digital mode is that one can invite experts and resource persons from anywhere in the world to talk about their knowledge and experience. Ideas can be shared on a larger platform to thousands and thousands of young minds at one go with minimal cost. Twenty-five years ago it was difficult to see pictures or videos of different buildings, locations, and cities. Now, with only a click of a button we are able to download all needed information including videos and interesting pictures of any developments happening anywhere in the world. This has made students much more aware of contemporary architectural developments around the world. Architecture faculty are, therefore, becoming partners with the students in their education where faculty learn and become aware along with their students while guiding them. This has also changed

the architectural expressions and designs that are now being done by students.

3. Geography and Architectural Education

Architectural institutions in metropolitan cities have an additional benefit due to their location since many architects practice in cities and are easily available to visit city-based institutions to teach students. Colleges in mofussil and two-tier/three-tier towns where the location is remote face a challenging situation where good and sufficient resource persons may not be adequately available to share their knowledge and experience with the students thereby affecting the quality of education.

In the last couple of years, it is observed that the enrolment of students in architectural institutions is declining. Institutions often fear the quality of students enlisting and worry about the fulfilment of the numbers of seats in the regular admission process. Frequent changes in rules and regulations are also affecting the admission process, and prospective candidates get confused as to what they are supposed to be studying and how they are supposed to be pursuing their education if they are interested in seeking admission in architecture.

Council of Architecture, as an apex body, has certain criteria regarding the number of faculty that should be available in the full-time cadre which leads to head-hunting by the institution to get their numbers filled at the time of inspections. This also becomes very difficult in remote areas and, therefore, the quality of education suffers to a larger extent.

4. The Politics of Admissions

In 2020-21, the admission process was delayed due to COVID-19. This delay has continued even after COVID-19 in the state of Maharashtra. This delay in starting the admission process is affecting the majority of the colleges. It is rumored that these decisions are made intentionally so that more number of students are able to join engineering or other streams and also the deemed universities. This hearsay and discussions associated with it are taking place in the state of Maharashtra within various colleges. This is a matter of concern for architectural education since, eventually, many seats may remain unfilled.

5. National Education Policy (NEP) & the Future of Architectural Education

The introduction of the *National Education Policy (NEP) 2020* is going to have a significant impact on architectural education with multiple entries and exits that are likely to be enabled during the course

of the degree programme. In contrast, the *Council of Architecture*, as per the Architects Act 1972, has laid down a condition that no lateral entry is permissible and all admissions should happen from the first year only after undergoing the requisite admission process. This admission process is based on the aptitude test and a student's score in her/his eligibility examinations. In the NEP, a student can exit the programme any time after one year, thereby putting the institution under financial strain. This may also create a strange situation in the industry where partly educated and trained persons enter the profession. With the *Council of Architecture* directives on one hand and the NEP with multiple entries and exits possible bring forth critical questions about the future of architectural education in the minds of the heads of educational institutions and the general public.

There is also a concern about the five-year degree programme for architecture. With abundant information and resources available from various media, can the programme be a four-year programme as per the policy of all engineering programmes? That also is an impediment for young and prospective students and their parents because the five-year programme becomes a long duration.

6. The Changing Role of an Architect

During earlier years, an architect was acting as the main person to coordinate all aspects of a projects. It was considered a noble profession and an architect was the master of the entire project. Situations have changed now with an architect's role being limited, mainly, to design due to the availability of other experts such as PMC, facade consultant, traffic consultant, MEP specialists, etc. The role of an architect is narrowing year after year. All multinational architecture firms and large companies coming into our country are creating a corporate kind of management where now an individual architect's role is becoming miniscule. This raises the question of the role and responsibility of an architect in the profession now and into the future.

Additionally, a recent court ruling suggested that one does not need to be an architect to design a building. The ruling made the process of architectural design open to others also. In future, therefore, the definition of an architect under the *Council of Architecture* regulations and as a result of the NEP will be questionable. We, as architectural educators and professionals, need to be cognisant of the situation and take steps to protect our role as architects and educators.

Epilogue

Despite the above challenges, there are positive signs emerging in the architectural education and profession. The NEP, despite its challenging stipulations, makes way for employment for many students who may be financially stressed and who may not be able to complete the five years of the programme, or who may need to earn while learning. The *Council of Architecture* will, I am sure, rise to the challenges presented not just by the NEP, but also by the changing trends being seen in our industry including in the areas of admissions, quality of education and the role of an architect. I look forward to the emerging new situation.



Prof. Suresh M. Singh (A09091) heads the Rachana Sansad's Academy of Architecture, Mumbai. He is an alumnus of the Academy of Architecture, and has been associated as a teacher with his alma mater since 1987. He is a Member of several professional bodies. He has authored several travelogues on the various places he has toured. As a long-time teacher, he believes that learning to learn is most important, especially since learning in a professional and creative field like architecture happens in praxis.

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STEPS OF (UN)-LEARNING

By Khushi Pednekar
Illustrations by Sandesh Jadhav



A Caveman explores the tools of today for the use of survival

Over the years, humankind has increasingly prioritised education. 50% of a child's day goes into his education, seemingly an act of building the future. Although non-viable, if a caveman finds this, he will think it's imprudent. For him who lives fetching his needs for the day and after, the future in his perspective is distant, blurry or non-existent

amongst the hunting prey around he lives with. In a day and age where the present is being donated for securing the future, can Education be more mindful of the present, acknowledging the problems of now, and applicable in the now and that now is today?

School becomes a centre of our formative learning, focused more on gulping down factual knowledge in

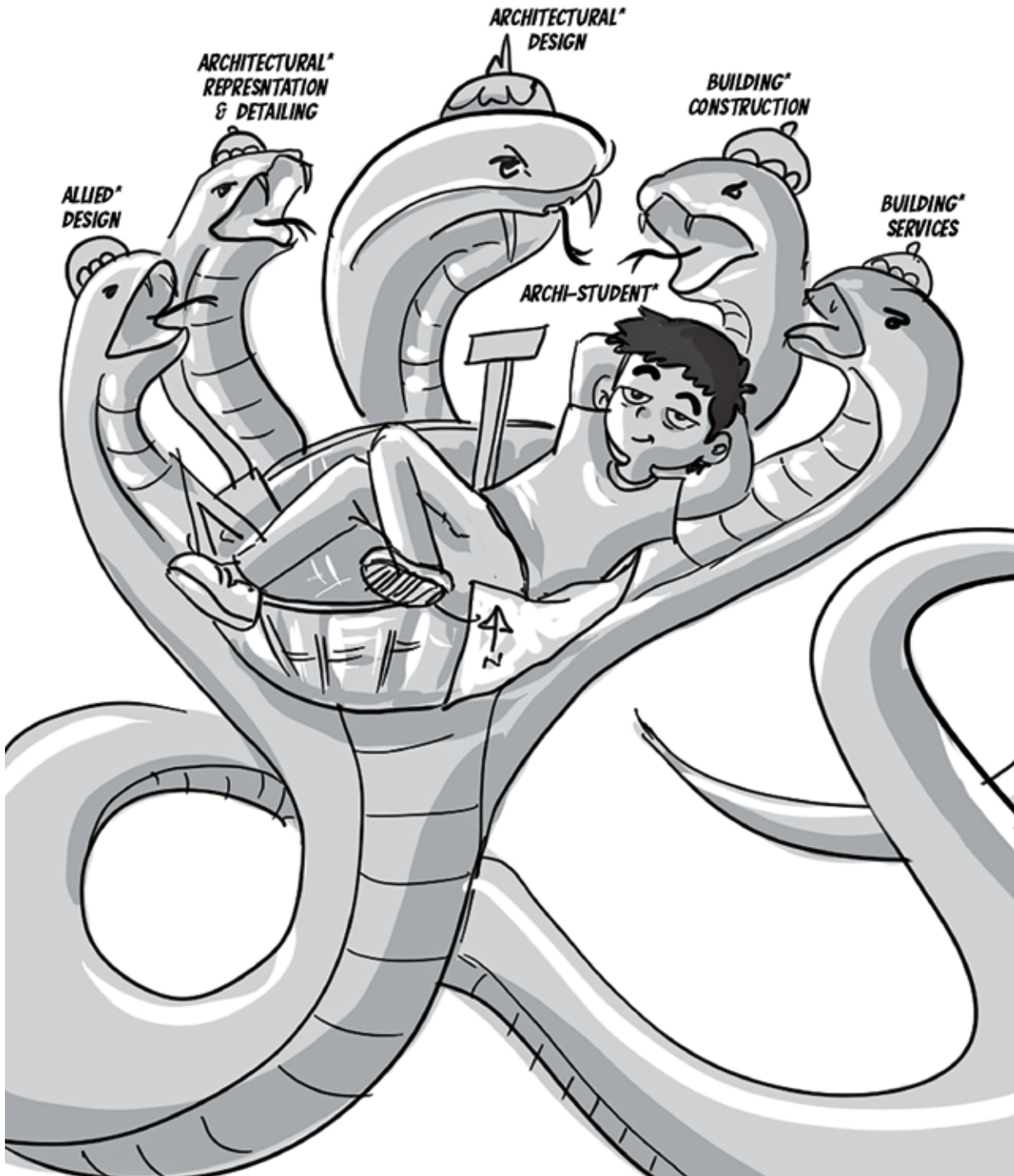
a designated time. But doesn't true learning happen beyond those dedicated hours?

It's good to learn from your mistakes. It's better to learn from others' mistakes.

Warren Buffet

When one enters the architectural world of design thinking, the individual ways of learning are still nascent in terms of what to learn and how to learn. As for any tutee, the earlier ways of learning included

concise ideologies which were furnished in an edited version, called a 'book,' which no longer exists to be the only way. A bold evolution from the method of apprenticeship, this inadvertently is overwhelming but leads to questions and inquiry within peers and mentors rightfully setting up a 'learning laboratory'. Throughout the years, for a tutee, it is a slow or even sudden realisation that learning starts from unlearning formative ways of getting knowledge and that the learning laboratory is an open field of



The multi-headed *naga* represents the multiplicity of foci as an integral part of education

learning from mistakes; discernibly from ours but more importantly from others.

Has this been done before? A common thought for design thinkers is more often answered by chances taken by others and their successful integration into design. Probably here is where a creative thought enters questioning the failure of a remarkable idea and then advancing to resolve the issues. Albeit if still a failure, it interestingly makes us ask WHY. And as is said:

A major stimulant to creative thinking is focused questions.

Brian Tracy

Referencing others' mistakes opens one's eyes to true examples around. A walk back home thus becomes a hitchhiker's way for a creative mind to observe and churn out mistakes. Different tutees have varied experiences which means that the true benefits of studio learning are seldom realised. The stakeholders involved thus become important mediators for bridging such gaps. If a class is a medium of rendezvous between the experienced and the interested, the interchange could be filled with insights of the former's journey, of their perspectives and mistakes.

This journey shapes a person's character and influences their way of living. Sensitising toward one's surroundings as well as the lives of others, an analytical mind is formed, one that is tooled to think of the challenges of the now. Can such observant minds be given chances of testing solutions or suggestions, in the real world, as a part of education?

The part of education often disliked is the multiplicity of foci it needs one to have. Even when one deciphers the ways of unlearning, one might get baffled by the multiple expertise they need to excel in. But is education about excelling or more about dealing with situations at the best, with only the desire to gain knowledge? Often trying to negotiate between the two, the journey becomes like a lost sailor on a log of wood, dancing on the waves in search of tranquility. Reiteration of the core principles realigns with the true goals of education when moments of failure are reassuring that excelling was not the goal. And if so, excelling shall be redefined, expanding its definition beyond mere numbers. Albeit the realignment, the part where education meets the real world is where such goals are taken over by blurry principles of success.

Whatever might it be, the architectural journey pushes us to redefine ourselves. The vertical interaction and the need for this for both seniors and

juniors expands the horizon of learning from books to learning to communicate and build relations, creating experiences of rediscovering ourselves. From chiselling the mind to finding our heart and interests the journey shall be holistic. And as Aristotle puts it:

Educating the mind without educating the heart is no education at all.



Khushi Pednekar is a Fourth Year B.Arch. student at Rachana Sansad's Academy of Architecture (IIA-affiliated). She likes to observe and ponder the little nuances of life around her. She is passionate about the stories and experiences of people. She thus sees architecture as a context and writes to describe such settings.

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Sandesh Jadhav is a Fourth Year B.Arch. student at Rachana Sansad's Academy of Architecture (IIA-affiliated). He has a passion for creating cartoons that convey ideas and depict real-life situations in a fun and engaging manner. His distinctive style primarily features black and white cartoons with bold and expressive strokes.

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New Age Government School at Borhadewadi in Pune

By Ar. Jyoti Panse

Fact File:

Project Name	: Late Mahadu Shripati Saste Primary School for Girls & Boys No. 13
Location	: Borhadewadi in Pimpri Chinchwad Municipal Corporation of Pune
Plot area	: 4,000.00 Sq. M
Total built up	: 3,597.55 Sq. M
Architectural Firm	: Jyoti Panse Associates
Principal Architect	: Ar. Jyoti Panse
Structural consultants	: VASTUSTRUCT (Mr. Rahul Dingane) / Mr. G.B. Bhilare Associates
Project completion	: 14 th October 2022

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Fig. 1: Photo of the School Building

About the Project:

When we architects think about planning and designing any school, the first thing that comes to mind is to design a well-ventilated and naturally lit school. We usually try to make use of the natural elements available to us along with the effective use of the topographical conditions of the plot. Every school should have a proper playground, and by proper we mean an ample playground! Effective use of all the available resources and well-planned structure helps the creativity and education excellence of the students to blossom in many ways.

We at JPA Architects have designed such a school which we would like to introduce to you. The school is planned on a plot of 4,000 sq. m. (1 Acre). This land was reserved for a school by the local municipal authorities. This school is now known as the *Late Mahadu Shripati Saste Primary School for Girls & Boys No. 13*. The school is located at Borhadewadi in Pimpri Chinchwad Municipal Corporation area of Pune. JPA Architects was chosen as the Architectural Consultant / Designer for this project based on the tender for which many architectural firms had bid for.

To reach the main building of the school we have to enter through a huge entrance gate which is designed keeping in mind the large expanse of the plot area. As we enter from the entrance gate inside the school campus we see the huge playground of 1,600 sq. m.

The playground and the school periphery are fringed by native varieties of shrubs and trees. The sprawling playground is dedicated to sports such as kho-kho, volleyball, kabaddi, etc. for the students. A well-designed paved walkway leads to the school building as it meanders across the playground. As we walk along the paved walkway we can see the flag post where our tri-colour is unfurled on the 15 of August and 26 of January every year (Fig. 1).

The school has a huge built-up area of 3,597.55 sq. m. A large double-height canopy welcomes us into the school building. Along with the huge staircase that leads us to the entrance lobby, care has been taken to design a ramp for the physically challenged students and staff members. The design of the ramp is such that the safety of its users is not compromised.

Once we enter the main building we enter into a double-height Entrance Lobby. As you look through the entrance lobby, you can see the entire school through the landscaped courtyard in between. The main building of the school is a ground + upper ground + three-storied structure. The parking facility for vehicles of the staff members is on the ground level of the building. The natural contour of the plot is considered and the ground floor is used for parking two-wheelers, cycles, and cars. The upper ground floor is planned as the main entrance. The cutting and filling of ground is strictly avoided so as to maintain and use the natural topography of the plot (Fig. 2).

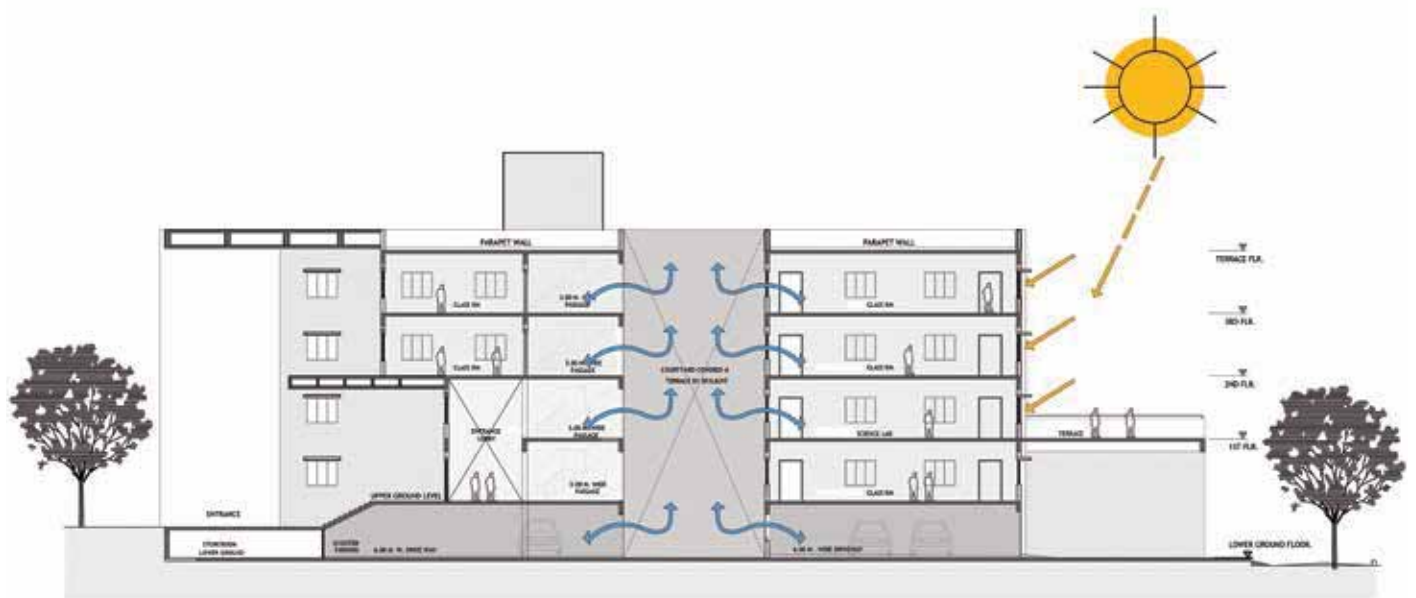


Fig. 2: Conceptual Section of the School Building

The upper ground floor houses the offices of the Principal of the school, staff rooms, and office space for the school along with a big seminar hall which is also used for parent-teacher meetings, staff meetings, and any function of the students. Each floor of the school building has separate toilet blocks for boys, girls, physically challenged students, and staff members. Three classrooms for kindergarten classes are also located on the ground Floor.

All thirty classrooms are equally divided from the 1st to 3rd floor of the school building. The classrooms are well-ventilated, with enough sunlight and natural air penetrating through numerous windows on the periphery. For this reason, the classrooms are planned on the periphery of the school building. The science laboratory is located on the First Floor of the building. This laboratory leads onto an open terrace. The terrace has solar facilities on which the students can do science experiments. Students can also do experiments and study the plants on the terrace. The school also has dedicated space for a Library along with laboratories for science and computers.

Separate toilet blocks for boys and girls along with physically challenged individuals are designed with ample distance so as to maintain the privacy and safety of the female students and staff members. Every floor has an adequate number of toilet blocks to cater to the huge number of students and staff members.

The corridors on all the floors are 3 metres wide to help prevent congestion when students enter or leave the classrooms and use the corridors during recess time. Three staircases are designed in the school building to safely enter and exit the building and commute within the building without creating any congestion. All fire safety-related works have been designed in the building for the utmost safety of the students and the staff members along with the visitors of the school. The school has provision of two lifts for all the floors, thereby assisting the physically challenged students, staff members, and visitors to commute on all floors of the school building.

The school building is now complete, but we are implementing BaLA principles in the school for which the work is still in progress. Building as Learning Aid, or BaLA as it is popularly known, is about developing school spaces, viz. the classrooms, floors, walls, doors, windows, columns, corridors, outdoor spaces, and the natural environment as learning resources.

We plan to implement the following few BaLA principles in this school:

1. Door Angle Protractor for the classroom doors
2. Numbering the stairs
3. Floor number lines on tiles and panels
4. MS grills in the form of various geometric shapes

We believe that schools are not just made of brick and mortar, they have a character of their own and by implementing BaLA we plan to accentuate the learning experience of the students and the teaching experience of the teachers.

All Images courtesy: Author



Ar. Jyoti Panse (A11112), founder and Principal Architect at Jyoti Panse Associates, has experience of over 30 years in interior design and architecture. She holds a graduate and post-graduate degree in Architecture and Urban Planning respectively. Ar. Jyoti is the recipient of numerous awards and has been felicitated by the Indian Institute of Architects.
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Empowering Architectural Education in India

Role and Relevance of The Indian Institute of Architects

Prof. Jit Kumar Gupta

Having origin and genesis in the sprawling lush green lawns and excellent academic environment of JJ School of Art and Architecture, Mumbai, the Indian Institute of Architects was, primarily established to promote, protect, spread, establish and make people, communities and the nation aware about the role, relevance and importance of the young and emerging profession of architecture, in making this world, human settlements and human living, more meaningful, qualitative and sustainable, by creating state of art built environment. Established in 1917 with membership standing at 158 in the year 1929, the Indian Institute of Architects has grown gradually and steadily in structure, stature, and strength, over the years, with membership standing at more than 25,000. With history spanning over ten decades, the Indian Institute of Architecture remains the apex body representing profession and professional architects in the country, with physical and professional spread covering the entire length, breadth and depth of the country.

Beginning the professional journey in India, under the dedicated and committed leadership, having a deep understanding and appreciation of the role and importance of the architectural profession, has helped in building a strong foundation, for the

rapid growth and expansion of the profession in the country, duly supported by ideals of sustainability, latest innovations, and technological advances made in the art and science of planning, designing and construction of the state of art built environment. Besides promoting and putting the profession of architecture on a high pedestal, the Indian Institute of Architects has continued its focus and commitment to making architectural education more qualitative, focused and productive in the country, as an integral part of its professional activities.

Looking objectively at the history and geography, of its functioning and operations, it can be safely concluded that the past journey of more than 100 years of the Indian Institute of Architects, has been a journey of its continued and sustained commitment in the area of promoting architectural education; and growth/development/ expansion of architecture, as an exclusive and standalone profession in the country, committed to the social welfare of communities.

Footprints in Architectural Education: Considering the context, value, role and importance of appropriate and quality teaching-learning, in creating quality professionals, the Institute of Architects made valuable contributions, on a continued basis, in defining the intent, course contents, scope and

methodology for teaching-learning of architecture. Sustained efforts made by the Institute have helped in not only putting the profession on firm footing, but also making the profession of architecture more qualitative and vibrant by creating quality professional architects.

Considering academics as an integral and essential part of professional practice, the vision and mission governing the Indian Institute of Architects *make specific provision for* improving standards of architectural education besides focusing on the profession of architecture in terms of;

- *Encouraging the science and the art of planning and building the standards of Architectural education, training and practice, by making grants to the technical institutions, by paying or assisting to pay the fees and expenses of the students, or by providing and giving scholarships, prizes or other rewards to such students, or by any or all such methods;*
- *Making purchase, lease, rent, hold and dispose of any land or property, and any building or hall, and to erect any such building or buildings to be used as a place of meeting for the members of the institute, or as a college and school or reading room or library for the advancement of the objects of the institute, and to provide accommodation for any meeting, conference, exhibition or congress, whether promoted wholly or partly by the institute or which, in the opinion of the Council, may conduce to assist in carrying on with the objects of the institute or tends to do so;*
- *Forming or acquiring by purchase, donation, request or otherwise a library and collection of models, drawings, designs or other material, and to maintain, extend and improve the same.*

Considering defined objectives and the absence of an adequate number of institutions imparting education in architecture in the country, propelled IIA to collaborate with *The Royal Institute of British Architects to create opportunities for higher learning/ education in architecture, for aspiring students/ professionals*. Footprints of architectural education in the country were laid formally by affiliating the Indian Institute of Architects with the **Royal Institute of British Architects, London**. The five-year Diploma Course in Architecture was accordingly introduced in the year 1923 and was subsequently recognized by the Royal Institute of Architects. The first examination of RIBA was conducted in India, in the year the year 1930. Affiliation with RIBA brought a lot of credibility to the institute, leading to numerous changes and

redefining the constitution and bylaws governing the Institute. This was done to get a considerable number of architects registered with the RIBA, into the fold of the Institute of Architects, enlarging its scope and area of operation from Mumbai to pan-India.

Over the years, in addition to making architectural education more qualitative, the Indian Institute of Architects, through its Chapter, Centers, Sub-centers and members, has helped in setting up a number of institutions imparting architectural education in the various regions of the country. Till the year 1972, when **The Indian Architects Act** became operational and the Council of Architecture was mandated/ entrusted with the task of defining minimum standards of architectural education in the country, the entire framework of architectural education was being exclusively catered, supported, supervised, looked after and empowered by the Indian Institute of Architects.

Genesis of Associateship Examination: Besides promoting and empowering formal education in architecture, the Institute is also credited with creating appropriate opportunities for higher learning for in-service three-year diploma holders, engaged/working, under the supervision and guidance of professional architects in the country. To cater to the needs of higher learning for diploma holders, Institutes have run a dedicated program for conducting Associateship examinations since 1982. After successful completion/ qualifying for the Associateship examination, candidates become eligible for election as Associate members of IIA and registration, as an Architect, under the Indian Architects Act, 1972.

The introduction of Associateship by examination was the outcome of several interventions/evaluations/ reviews/ decisions made at the levels of the Ministry of Education and Social Welfare, Department of Education; Government of India; Indian Parliament; All India Board of Technical Studies in Architecture & Regional Planning and Council of Architecture, established under the Indian Architects Act, 1972; as detailed below:

Genesis of the introduction of Associateship of the Indian Institute of Architects by examination, has roots in the detailed representation made by the Association of Architectural Assistantship, Diploma holders in September 1972 to the Ministry of Education and Social Welfare Department (MOESW), Government of India, requesting for providing opportunities for higher studies and avenues of promotion in service.

The Ministry of Education and Social Welfare forwarded the said request to the All-India Board of Technical Studies in Architecture & Regional Planning, (then responsible for guiding, directing and regulating the profession of Architecture and Planning in the country), for consideration, evaluation and taking appropriate decisions.

All India, Board of Technical Studies in Architecture & Regional Planning, considered the said request of Diploma holders in its meeting held on December 4, 1972, at Delhi, under the agenda item, 'To Receive the Report of Curriculum Committee regarding Revised Architectural Assistantship Course' and concluded/recommended as under.

- i. "Revised syllabus of Diploma in Architectural Assistantship covers the syllabus of first two years of the five-year full-time Degree/Diploma Course in Architecture, successful diploma students would be eligible for admission to 3rd year of B Arch Course".
- ii. The Board further recommended that the Indian Institute of Architects, Bombay, be requested to conduct professional examination equivalent to a Degree in Architecture, as soon as possible, for the benefit of diploma holders engaged in the profession.

Based on the decision made by the Board of Technical Studies; the Ministry of Education and Social Welfare, informed the Secretary of the Diploma Holder's Association, through a communication dated May 10, 1973, that.

"The Indian Institute of Architects was going to conduct a professional examination, equivalent to a degree in architecture, for the benefit of diploma holders engaged in the profession of Architecture in the near future. The letter further stated that said examination would open an avenue for the Diploma holders in Architectural Assistantship, to acquire a higher qualification in Architecture for which, The Indian Institute of Architects has been requested to arrange/ organise the examination, as soon as possible.

The issue of conducting such an examination by the Indian Institute of Architects, for the diploma holders was also raised by Sh. Ram Bilas Paswan, then member Indian Parliament, in the 6th Lok Sabha under unstarred question no 4564 dated 28th August 1978. In reply to the said question, the Minister of Education, Social and Welfare and Culture stated that.

- i. The Indian Institute of Architects, Bombay has informed that it will be pleased to conduct the

professional examination in Architecture for the diploma holders.

- ii. The Institute will enroll the successful diploma students as student members of the Indian Institute of Architects on the same lines as is being done by the Royal Institute of British Architects. The said students can appear for the final examination of the Indian Institute of Architects, but the scheme of the final examination is not yet finalized. The Institute of Architects has intimated that the subject, dates and other details of the examination are being finalised.

Based on detailed discussions, deliberations and recommendations made by the Council of Architecture contents of the syllabus and subjects to be studied for the studentship examination, were finalized by the Indian Institute of Architects.

First Associateship Examination for the diploma holders was conducted by the Indian Institute of Architects, in the year 1982 in physical mode at six centers in India namely, Bombay, Delhi, Calcutta, Hyderabad, Chandigarh and Madras.

Later on, based on a request made to the Ministry of Education and Social Welfare, Department, Government of India, by the Associate Members of IIA by Examination, to accept the Associateship Examination, at par with the Bachelor Degree in Architecture of a recognized university, for recruitment to the posts and services under the control of the Central Government, MOESW, referred the matter to COA for consideration, deliberation, evaluation and making appropriate recommendations.

Based on communication received from the Government of India, the Executive Committee of COA, in its meeting held on October 27, 1988, constituted a three-member Evaluation Committee with Sh. S.Y. Madan as the Convenor and Ar. Uttam C Jain and Ar. Raja Poredi, as members.

Said Evaluation Committee visited and examined the premises of IIA and sourced detailed information from IIA with regard to the administrative setup for conducting the examination; Criteria for Eligibility of candidates for appearing in the examination; Mode of conducting examination; Centers where examination was conducted; Syllabus of the studies and subjects prescribed for examination; Basis for selection of paper setters and examiners; Review of question papers and evaluation of answer sheets; Financial resources available with the Institute for conducting the examination etc.

Based on the evaluation made and interactions held with Chairman BOE, Controller of Examination and examining relevant documents, the Evaluation Committee, in its report dated November 16, 1990, concluded and made the following recommendations to the Council of Architecture

“The Committee, recommends recognition by the Council of Architecture, the examination conducted by the Indian Institute of Architects and consequently grant of Associate Membership of the Indian Institute of Architects (by Examination) to be at par with the Bachelor Degree in Architecture of the Universities recognized by the Council of Architecture and for recruitment to superior posts and services under the control of Central Government

The report, along with recommendations made by the Evaluation Committee, were considered/ deliberated in detail and approved by the COA, in its meeting held at Bangalore, on October 9, 1991, and communicated to the Government of India in the MOESW.

Based on the recommendations made by COA, the Government of India recognized *the Associateship Examination of The Indian Institute of Architects(By examination), at par with the Bachelor’s degree in Architecture of a recognized Indian university, for employment to posts and services under the Central Government in the appropriate field, vide letter dated August 5, 1992.* This recognition was later made operational retrospectively from the year 1982, when the first exam was conducted by IIA, vide Government communication dated March 30, 1998.

Philosophy and approach to conduct the Associateship examination: Based on the mandate given, The Indian Institute of Architects has been conducting an associateship examination since 1982, for in-service diploma-holders, employed and working in the office of professionally qualified architects; to help such personnel improve their academic qualification and have better career opportunities in service and academics. The institute is conducting the exam with the prime objective of ensuring that students qualifying the exam have acquired the appropriate level of competency, capacity and expertise to discharge the professional duties /responsibilities; perform the role and render professional services as an architect, most effectively and efficiently.

The examination system is carefully crafted, planned, designed, and managed to empower, assist and make value addition to the capacity, capability, knowledge, and understanding of the candidates,

in the art and science of planning, designing and construction of sustainable buildings. Candidates are mandated to continue to gain practical experience in Architecture under the continued support and guidance of a qualified architect, during the entire duration of studentship.

Structure and Operation of the System of Examination: As an apex professional body actively engaged in protecting, preserving and making value addition to the profession of Architecture, IIA has put in place a dedicated structure and well-defined system, to ensure and maintain the highest professional standards. Accordingly, a large number of checks and balances have been put in place to maintain the appropriate standards of professional competency for the examinees. These checks and balances include *setting* up a separate and independent department of examination, in an exclusive building located at Belapur, headed by a qualified and experienced Controller of Examination, who also acts as, Ex-Officio Member Secretary of the Board, duly supported by qualified manpower. Controller of Examination works and operates under the overall guidance, supervision, control and direction of a High-Powered Board of Examination and Architectural Education, constituted by the Council of Indian Institute of Architects. The board comprises of eminent professionals and academicians, working/ teaching architecture across India, and is mandated to regulate, guide, monitor, evaluate and promote a qualitative system of examination while maintaining the highest professional standard of associateship examination. Current BOE&AE includes Dean/ Director/Principles/HOD of reputed Universities/ Institutions, imparting architectural education in the country, besides eminent professionals working in the profession. The board has a tenure of two years. The board is empowered to appoint eminent professionals/academicians pan India, to act as paper setters in various subjects for examination and evaluating answer books by constituting a CAP; moderate the question papers and declare the exam results besides taking all policy decisions, related to conduct and regulate the examination to make it more relevant, rational, productive and qualitative.

Entry-level Qualification for Studentship: Based on the eligibility criteria defined for admission to the Associateship Examination (*approved by the Council of Architecture*), candidates having qualified for a three-year full-time Diploma either in Architectural Assistantship/ Interior Design/ Civil Engineering, with a minimum of 50% marks in qualifying exam, after having qualified the aptitude test NATA conducted by COA, are eligible for registration as student with

IIA. In addition, it is mandatory that the candidate, prior to seeking admission, and depending upon the basic qualification, must also have practical experience of one/ two years, working under an architect registered with the Council of Architecture, having a minimum experience of five years. Looking at the conditions and qualifications prescribed for becoming eligible for registration for Associateship IIA, such qualifications are much higher than what is specified for admission to the B.Arch. course in the regular institutions of Architecture. IIA Scheme of examination does not include any provision of granting exemption to any candidate in any subject/ part of study, during the entire duration of studentship. In addition, no lateral entry at any stage of the IIA examination is permitted. Candidates admitted to Associateship by Examination of IIA, are supposed to be in service, working in the office under the constant guidance of qualified Architects at the time of admission as well as during the entire duration of the Associateship examination to remain in touch with the profession, including designing and construction of the various architectural projects.

Course contents and Syllabus: The Entire course of studentship, from admission to completion, is divided into five distinct stages comprising Part-I, Part-II, Part-III, Part-IV -A & Part- IV-B. Course contents, subjects to be studied and scheme of examination for the studentship examination, have been prepared and designed by the Board of Examination involving experts comprising of the eminent professional architects, working and operating in the academics and profession. Course contents are, primarily and, based on the pattern followed by the leading institutions imparting architectural education in the country. Accordingly, a detailed syllabus has been evolved, considering the basic needs of the profession and maintaining the highest standards of professional education. Course contents and subjects of the study for the IIA examination compare favorably with what is defined and prescribed for the students studying in the formal system of education in architecture. Contents, intent and detailed syllabus, currently in operation, have been reviewed, revised and redefined in consultation with the Council of Architecture.

Based on the understanding, skill, knowledge, expertise and experience of the members of BOE&AE; the system of examination/ course contents/conduct of examination/setting and evaluating the question papers are monitored on a continued basis, to make the entire examination system more objective, focused, rational, relevant and qualitative to cater to the emerging needs of the architectural education

and the profession. The syllabus and scheme of the Examination have been reviewed and revised five times in the years 1988, 1992,1998, 2004 and 2014, since the launch of the examination in the year 1982. The syllabus now in operation includes the study of 32 subjects including architectural design/ building construction/ viva- voce etc., during the entire duration of the course spanning over five parts.

Question paper and assessment of student work:

As already stated, BOE & AE regulates and manages the entire system of examination. Paper setters and evaluators for different subjects are selected by the Board, amongst the renowned teachers/professionals, from all over India, working in reputed architectural institutions or practicing in the profession. Question papers for different subjects are moderated by the Board before the conduct of the examination. The process of table marking for evaluating the answer sheets by qualified professionals is used, which is conducted in the IIA premises at Belapur, Navi Mumbai, keeping/ practicing all norms of secrecy, transparency and objectivity. IIA believes in following the highest professional/academic norms, standards and practices, while setting the question papers and evaluating the answer sheets.

Conduct of Examination: The Examination for studentship, is conducted in physical mode, twice every year in the months of June/ December, in the professional institutions approved by BOE& AE, under the strict supervision and guidance of qualified, following a detailed and well defined; code of conduct/ system of conducting the exam. Independent observers are appointed by the Board to objectively evaluate the process and conduct of the examination at each center. These observers are mandated to visit the examination centres and send a detailed report about the quality and conduct of the examination to the Board for consideration and taking appropriate decisions. During Covid 19, for the first time, an online examination was conducted, while using the platform of IES College of Architecture, Bandra, Mumbai. In physical mode, examinations in the past have been conducted at 7 different centers including Delhi, Mumbai, Kolkata, Chandigarh, Chennai, Kottayam & Lucknow.

Focus on Architectural design: Besides working continuously on various architectural projects, as part of employment and taking exams periodically, in the specified subjects, candidates enrolled are required to conduct detailed design exercises, in each part of the examination, under the supervision of a qualified architect appointed by the Board. Students are required to prepare design portfolios

on a specified topic. The progress of the candidate is monitored regularly during the entire duration of the project. The board appoints an Internal juror for each candidate, to assess their work and guide the candidates to finalize the project. After submission, the final evaluation is done by eminent jurors, appointed externally by BOE&AE.

As an integral part of the Part-II study, candidates are required to learn the process of Architectural Appraisal, to create awareness among the students regarding the role and importance, observation, analysis and expression of the various components of the building environment, for improving their understanding of the context of Architectural design and architectural vocabulary. Besides drawing/theory subjects, students are also required to undergo external examination in the subject of Architectural Design at the level of Part-I, II, III and IV-A. The duration of the said examination is 6, 12, 15 and 18 hours, respectively. Design problems are framed, and design solutions are evaluated by qualified and expert professionals operating in the domain of architectural practice and academics.

Architectural Thesis: As an integral part of the syllabus and study curriculum, of Part IV- B; candidates are required to prepare a thesis/project design, on an approved subject, based on the knowledge and learning made in architecture, during the study of the earlier four parts. A thesis is required to be prepared under the constant supervision/guidance of an Architect, appointed by the Board. During the entire duration of preparation of the Thesis, a student is required to have a minimum of 8 to 10 sitting with an external Guide appointed by the Board. The Guide is required to maintain an attendance sheet; give a report in a prescribed format and award internal marks, based on the students' work, progress and understanding. The final design is evaluated through Viva- Voce by a panel of external jurors appointed by the Board. In order to make an evaluation of the thesis, more objective/focused and qualitative total marks have been divided into various components including the concept, site analysis, case studies, site plans, detailed plans of all floors, elevations, sections, services, model, views and report. Recently, the Board also introduced the system of external evaluation of the Thesis work at the draft stage, for providing additional guidance and support to students before final submission/evaluation.

In order to aid, advise, assist and guide the candidates in the art and science of preparation of a Design portfolio, IIA has prepared a detailed-Manual for Architectural Design Thesis for Part- IV-B

students. Manual details the process of preparing a thesis in terms of; selection of the project; defining objectives; selecting site; conducting site analysis and undertaking case studies besides defining stages of preparing thesis including preparing synopsis; data collection, preliminary viva-voce, pre-final design viva-voce and final Design and viva-voce. Manual details out approach to; data collection, site analysis, study of climatic conditions and case studies, along with the contents of each stage of thesis preparation besides detailing out the intent, context of report and guidelines to be followed by the student while preparing architectural drawings.

Way Forward: Based on the study made, data sourced, and the analysis conducted, regarding the journey of the IIA studentship exam since 1982, the Associateship examination has made a valuable contribution to the growth, spread and development of both, professions/ academics in architecture, in the country. The total number of students completing the prescribed course of associateship examination, from its inception in 1982 till 2023, stands at 2476. A large number of associate members after clearing the examination are known to have pursued higher studies by obtaining higher qualifications, leading to the award of a Doctorate/ Master's degree in architecture & planning. Many of these Associates are now heading/serving reputed Institutes imparting formal architectural education in the country, in the capacity of Directors/ Principals/ senior faculty. In addition, a substantial number of Associates qualifying from the IIA, are also practicing in the metropolitan/other cities, employing graduate architects, and providing facilities for training for the students of Architecture studying in the formal system of examination. Being involved in architectural practice, these associates immediately after qualifying for the architectural assistantship exam, have facilitated the growth and spread of the profession at the local level.

A large number of Associates, who were employed in the service of state/ central departments, at the junior level, have grown in rank and status, after completing the examination. A few of them are positioned at the level of Chief Architects /Senior Architects/ Architects /Senior Town Planners/ District Town Planners, in various state/central level architectural/ planning services and are also known as heads even the State Department of Architecture. Besides contributing to the rapid growth, spread and expansion of profession/ academics, the Associateship examination, for its quality, has also been accepted and recognized by leading Architectural/ Planning Institutions of the country;

including Schools of Planning and Architecture, Delhi, Jamia Milia University, etc, for admission to the Doctorate level and Master level Courses in Architecture, Urban and Regional Planning, Housing, Urban Design, Landscaping, etc.

Despite all positivity, the Indian Institute of Architects is taking all precautions and steps and making constant efforts, on a continued basis, to improve the quality of examination and update the knowledge of candidates pursuing Associate examination, to make them stay relevant to the ever-evolving, devolving and changing needs/requirements of the profession of architecture. For enabling /facilitating /empowering; students in professional learning, are being provided easy access to study/course material and reference books, relevant to the subjects of study, which are defined and made integral parts of the syllabus. Reading material received from various sources/experts is shared with the student community, through a dedicated portal, created by the IIA for the students, perusing associateship examinations from time to time. E-books prepared by the architects are loaded on the IIA portal for reference and study of the candidates. Online lectures are also organized for students on various aspects/ subjects by eminent experts. In addition, invitations are also extended to the students for participation/learning from various expert lectures, programs, conferences and workshops organized by the respective chapters of IIA. To facilitate architectural education and meet its objectives, the Institute has already established "Sohrab Bharucha Architectural Library," located at Navi Mumbai, which remains accessible to all the members and students of architecture in the country. IIA Publications Board publishes a monthly newsletter. All student members receive a copy of the said newsletter.

Considering the fact that Architectural education, as an integral and essential part of the profession, is always evolving, devolving, never fixed and never finite, for making the examination system more relevant, rational, qualitative, productive, effective and efficient catering to the dynamic nature of the profession, IIA is involving several eminent professionals to engage with the students and share their professional knowledge and experience, to improve their professional capacity and understanding. The institute is also looking/studying the pattern, approach and good practices being followed, by other professional institutions conducting examinations for professional courses of higher learning for in-service professionals. The Board, as a part of its duties, also interacts with student members regularly, to understand the issues

related to making the current education system more qualitative. However, the Institute remains open to all innovations, improvements, suggestions and ideas made for making the examination system more qualitative and focused.

Note: *This paper has been prepared by the data and details sourced from the archives of the Indian Institute of Architects & Department of Examination, IIA; study and analysis made of the current syllabus and knowledge /experience gained while working both as member/ Chairman Board of Examination, IIA and interactions held with the learned members of the Board and office bearers of IIA, which is thankfully and gratefully acknowledged.*



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Innovation in Education Embracing Smart Schools

Ar. Parikshit Waghdhare



The need for smart schools today is crucial for fostering a child's all-encompassing growth and development. A smart school is a teaching-learning facility that uses technology to prepare students for the information age. Several teaching and learning concepts such as curriculum, pedagogy, assessment, and teaching-learning materials should be addressed in order to meet the educational goals of smart schools. One of the key characteristics of a smart school is that it allows pupils to take notes using digital tools like pens and tabs. They can also cut down on their learning time significantly in this way. They no longer have to lug around all those bulky textbooks and notebooks to class. The most important benefit of smart schools is the dynamic exchange of information and resources, which reduces the need for traditional learning materials like paper, pens, and printouts. Thanks to the interactive experience offered, there is no need to take extensive notes or wait for feedback.

Smart technology for schools

In order to provide a more effective and efficient learning environment, smart school technology provides integration of digital technologies into the established educational framework. To provide an interactive, personalised, and engaging learning environment that meets the needs of the students, smart schools make use of cutting-edge technologies. This essay examines the definition of smart school technology and how it is changing the face of education.

The term "smart school technology" describes how the conventional educational system has been integrated with digital technologies like computers, tablets, smartphones, software, and learning management systems. Smart school technology aims to improve learning by offering a personalised and interactive educational experience.

To provide a more immersive and interesting learning environment, smart schools make use of cutting-edge technology like artificial intelligence (AI), machine learning (ML), and the internet of things (IoT). These tools support personalization of learning and learning process for both teachers and students.

There are many educational applications for smart school technology. Smart school technology uses some of the following examples:

Learning Management Systems (LMS): LMS platforms are software programs that give instructors and students a centralised location for organising and distributing educational materials.

Artificial Intelligence (AI): AI is a technology that allows machines to learn from their experiences and adjust to changing circumstances. AI has the potential to tailor learning for particular students in the education setting.

Augmented Reality (AR): AR is a technology that projects digital information over the physical world. AR can be utilised to design immersive and interactive learning experiences in the context of education. For instance, an AR software can add digital content over a printed textbook to make learning more interesting for pupils.

Internet of Things (IoT): The interconnectedness of physical things like smartphones, tablets, and computers is referred to as IoT. IoT can be utilised to provide a more connected learning environment in the context of education. IoT sensors, for instance, can be used to automate administrative operations, measure student progress, and check class attendance.

For both instructors and kids, smart school technology offers a number of advantages. Among these advantages are:

1. Personalization
2. Engagement
3. Effectiveness
4. Accessibility
5. Collaboration

Smart schools developed from the *gurukul* system

The historic *gurukul* system, which served as the main educational framework in ancient India, has substantially changed in comparison to modern institutions. The *gurukul* system was built on a teacher-student relationship in which the students lived in an *ashram* (hermitage) with their *guru* (teacher) and learned numerous subjects through oral transmission.

On the other side, the smart school system is founded on the use of technology to support and enhance the educational process. Under this approach, students access instructional resources, communicate with teachers and peers, and engage in interactive learning activities by using electronic devices including computers, tablets, and cell phones.

There are several similarities between the *gurukul* system and the smart school system despite their distinctions. For instance, both systems place a premium on the value of developing close bonds between teachers and students. In contrast to the smart school system, where teachers use technology to build and maintain relationships with their

students, the *gurukul* system placed a high priority on the *guru*-student relationship as an essential component of the learning process.

The emphasis on individualised learning in the two systems is another resemblance. Unlike the smart school system, which uses technology to develop personalised learning paths for each student based on their unique learning requirements and preferences, the *gurus* in the *gurukul* system would tailor their instruction to the needs of each student.

The *gurukul* method is superior to the smart school system in a number of ways, though. For instance, students now have access to a considerably greater variety of instructional resources than they would have under the *gurukul* system. Students may access educational resources from anywhere in the globe via the internet and other digital technologies, which improves their learning experience and broadens their knowledge.

The smart school system also gives teachers the ability to monitor student progress and give students feedback in real-time. This makes it possible for teachers to offer more support and direction to kids who may be failing in certain areas.

Ultimately, despite certain parallels between the *gurukul* and the smart school systems, the latter marks a tremendous advancement in the way we approach education. The smart school system has the ability to change education and prepare kids for success in a world that is changing quickly by utilising technology to enhance and improve the learning experience.

Benefits of implementing technology in education

Teachers may be unsure of the value of incorporating technology into the classroom. There are numerous advantages for both teachers and students. By incorporating computer technology into the classroom, teachers may support and improve student learning, foster relationships with students, and inspire them to interact with knowledge in novel and engaging ways. Students are given new skills as digital learners with supportive guidance, clearly defined objectives, and careful instruction on how to use technology successfully and responsibly. These abilities have been related to both enhanced academic achievement and higher personal and professional success. The following advantages come from using technology in the classroom:

1. Enhanced involvement of students
2. Promoting cooperation and teamwork
3. Getting students ready for life after graduation

4. Linking students and teachers
5. Improving teaching results
6. Promoting instruction that is differentiated

Modern day demand for smart schools

The necessity for smart schools is becoming more and more obvious in the world today, which is changing very quickly. Technology is used in smart schools to improve teaching and learning and give students a more enjoyable and successful educational experience. The goal of the advanced curricula in schools is to give pupils a more thorough education that equips them for the challenges of the twenty-first century. Some of the new developments in education are:

1. More Attention Paid to Digital Literacy
2. Customized Education
3. Teamwork in Education
4. Hybrid Education
5. Project-Based Education.

Schools now need more sophisticated technology to enable digital literacy, individualised learning, collaborative learning, blended learning and project-based learning. To provide students with the knowledge and abilities they need to flourish in the digital age, schools must emphasise the adoption of cutting-edge technology. Nevertheless, schools must also make sure they have the tools and assistance they need to successfully incorporate cutting-edge technology into the curriculum.

Some of the numerous benefits of smart schools in education are that it:

- makes students future-ready
- improves access to education
- improves student engagement
- personalizes the learning experience
- increases teacher productivity
- enhances cooperation and communication
- resolves educational challenges
- develops stage of smart services in schools
- improves teaching tools
- individualizes learning paths
- provides real-time feedback
- has time-saving tools
- provides an interactive and engaging learning
- gives access to educational resources
- enhances cooperation and communication
- encourages resource sharing

Newer requirements due to changes in educational boards

Many schools adopting old curriculum such as SSC are now changing to ICSC, IGCSE or IB, which require different areas and space planning. The demands for technological integration in schools vary depending on the educational boards, including state boards, national boards, and worldwide boards. The requirement for cutting-edge technology in schools may change as a result of these variations in a number of ways.

1. Academic requirements
2. Assessing Conditions
3. Teacher Training
4. Educational needs

Hence, the standards for technology integration in schools can vary depending on the educational boards. Many factors, such as curricular requirements, assessment requirements, teacher preparation, student needs and global competitiveness might have an impact on the need for modern technology in schools. In order to meet the demands of their particular educational board and to give pupils the skills they need to thrive in the twenty-first century, schools must prioritise the implementation of new technologies.

Advanced lifestyle and awareness for quality education and transparency

The necessity for cutting-edge technology in schools is impacted by the modern lifestyle and knowledge of the need for quality education. The requirement for cutting-edge technology in schools may be impacted by these issues in the following ways:

1. Higher standards
2. More focus on cooperation
3. Customized education
4. Fourth-party data-driven decision making
5. Increased communication

Hence, a higher demand for cutting-edge technology in schools may result from a sophisticated lifestyle and increased awareness of the importance of quality education. People expect schools to provide cutting-edge digital tools and resources that can enable individualised learning, data-driven decision making, and collaboration as people become more aware of how important these concepts are. Students' learning environment can be made more interesting and inclusive with the help of improved communication, greater cooperation, and tailored learning experiences.

Costs associated with implementing smart services for school management

The use of technology to simplify and automate many administrative and academic processes within schools is referred to as smart services for school management. These services may include student data management, attendance monitoring, grade reporting, scheduling, and parent-student communication. While implementing smart services might benefit schools and children in many ways, there are also cost factors that need to be taken into account. We will go over a few of the financial factors that schools should take into account while implementing smart services for school management in this response.

Starting expenditure

The initial investment necessary to establish these systems is one of the most important financial factors to take into account when choosing smart services for school management. This investment may cover the price of the IT infrastructure, software, and hardware required to support the new systems. The price of educating teachers and staff on how to utilise the new technology efficiently must also be taken into account by schools. The long-term advantages of smart services can outweigh the upfront costs, despite the fact that there may be a sizable initial expenditure.

Consistent upkeep and assistance

The stages of a smart service's life cycle in education are:

- Planning and analysis
- Design and development
- Implementation
- Maintenance and support
- Evaluation and improvement
- Replacement

Making the integration of technology seamless Schools must take into account ongoing maintenance and support expenses in addition to the initial investment for smart services. This may cover the price of hardware maintenance, software upgrades, and IT support services. Also, the price of adding IT employees to operate and maintain the new systems must be taken into account by schools. Even though the long-term expenses of smart services can mount, it's crucial to make sure that they are planned for and taken into consideration in the school's financial plan.

There are various advantages which can compensate for this cost factor as follows:

- Lower administrative costs
- Enhanced efficiency
- Better student outcomes

Smart school technology features

Smart school systems include a screen viewer and tab control, which let teachers observe what students are working on in real-time and close tabs that aren't necessary or are distracting from teaching. A chat function is also provided that enables teachers and students to communicate directly so that students can covertly ask questions and teachers can help diverted students get back on target. Together, these features and programmes lessen the strain of managing a virtual classroom and optimise learning, resulting in richer learning opportunities for both teachers and students.

Challenges faced in implementation of smart schools

Old infrastructure: The majority of school construction was done in the middle of the 20th century, so the average age of these institutions is over 50 years, necessitating upkeep and improvement. The requirement for cutting-edge technology in schools may be significantly impacted by the conversion of outdated infrastructure to new infrastructure. The following are some ways that modernising ageing infrastructure may impact schools' requirement for cutting-edge technology:

Following is the need of future generation schools which should be incorporated in upgraded infrastructure:

1. Enhanced connectivity
2. Increased safety
3. Enhanced effectiveness
4. Improved integration of modern infrastructure
5. Saving money

Less strength to expand further: The need for cutting-edge technology in schools may be significantly impacted by the trend towards smaller households and fewer children. The requirement for cutting-edge technology in schools may be impacted by the trend towards smaller families in the ways listed as follows:

1. Cutbacks in funding
2. Increased competition amongst schools
3. Changing learning methods

In the short term, smaller families might lead to fewer pupils enrolling in school but the needs of the workforce in the future might necessitate a greater emphasis on advanced technical skills. In order to prepare students for the needs of the future workforce, schools may need to make investments in cutting-edge digital tools and resources.

The trend towards smaller families may significantly affect the need for cutting-edge technologies in educational institutions. The need for cutting-edge technology to accommodate the changing learning preferences of students from smaller families, to prepare them for the demands of the global workforce and to meet future needs may increase, even though it may result in decreased funding and increased competition among schools.

Conclusion

Despite its challenges, smart schools emerge as the need of the hour in the digital age where technology-driven solutions can improve the quality of education imparted in schools. It is imperative to move with times and embrace change that will uplift and enhance the educational environment by providing flexibility in teaching methods, more efficient capital management through cost savings and improved communication between students, teachers, and parents.



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Shikshangan - A Study of an Inclusive School: Case Application at New Town, Kolkata, India

1. Introduction

1.1 Introduction of problem with the background

Based on the Census of India 2011 record, 2.2% of the total population of West Bengal is differently-abled. About 27.19% of this section is within the age group of 0-19 years (school going children). A World Bank (2007) study has revealed that children with various kinds of disabilities have 5 times more probability to be deprived of school and education than SC or ST children. Even, the maximum percentage of differently-abled children who try to pursue education, rarely improve more than the primary level of education due to the fear of rejection.

To improve this situation, *Sarva Shiksha Abhiyan* (SSA) started the 'zero rejection' policy, under which all schools are obliged to accept students irrespective of any disabilities and discrimination (Kaushik, 2018). However, the scenario worsened when the 'Special Schools' started for the 'Children with Special Needs (CWSN)', making them deprived of mainstream education, thus developing a specific disability culture (Singal, et al., 2017). There are various extracts from articles like 'Social Exclusion of Disabled Persons in India and their Attitude towards Society'. The rejective behavior of society and the discrimination against differently-abled is evident (Sofi, et al., 2014).

1.2 Aim and Objectives

The aim is to design schools for both differently-abled (for blind, deaf and dumb, and physical disabilities) and healthy children with common assemble, transition zones, sports facilities, and leisure spaces to normalize acquiring education by both within the same campus.

Objectives of the case application are -

- i. To design common transition spaces for all children.
- ii. To habituate or normalize the assembly of differently abled and healthy children through the common transition spaces.
- iii. To design spaces for all the children based on barrier-free architecture.

2. Literature Study

The most important step towards inclusion is to make various parts of the school building accessible, which are as follows –

Gates and Roads

The gates should have colored signage and braille texture for identification, by the students. Channels of collapsible or other gates should be kept embedded within the ground. The driveway should be kept separated from the pedestrian pathway for the security of the students. The campus design

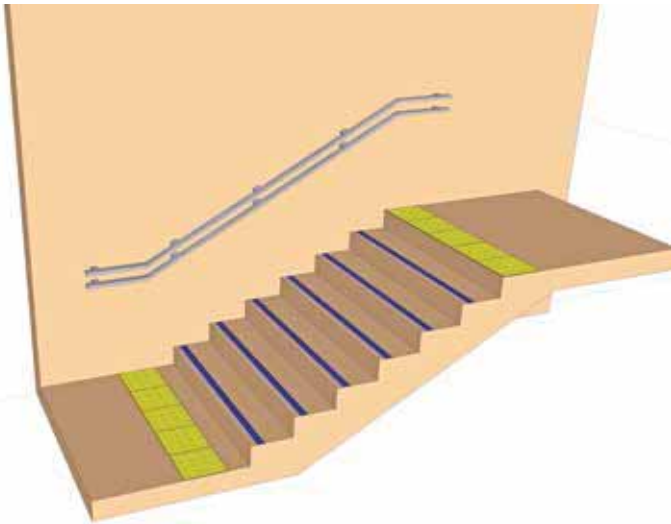


Figure 1: Stair

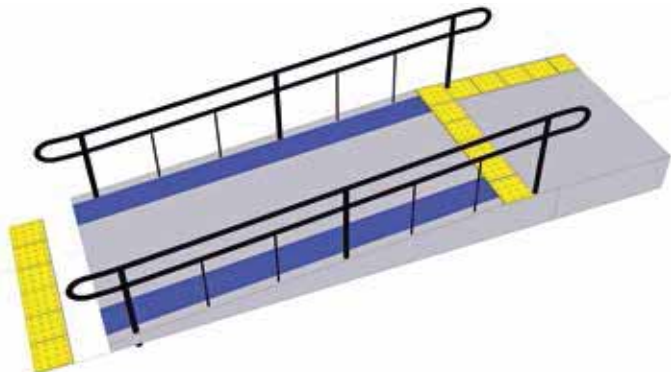


Figure 2: Ramp

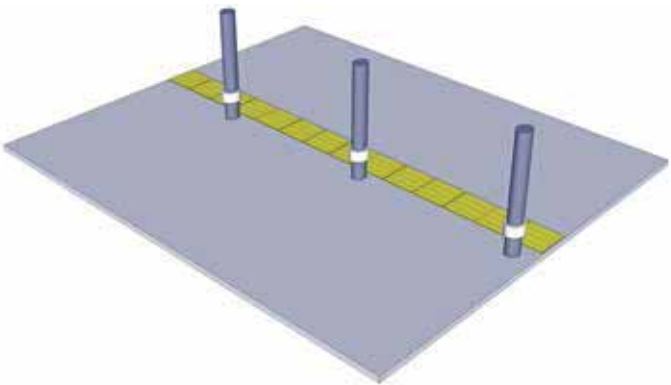


Figure 3: Customised bollards with lights at a lower level

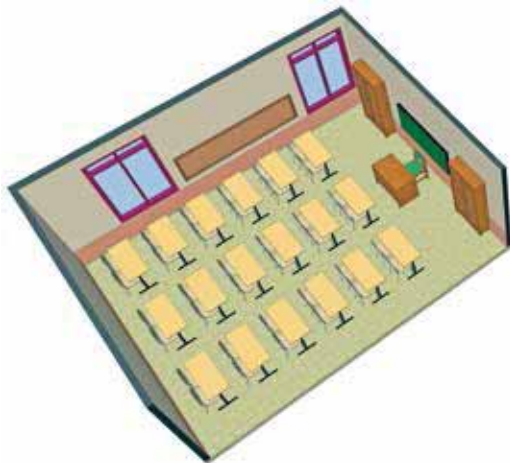


Figure 4: Conventional classroom

should keep the vehicles away from the playground and other spaces where the students will have access during school hours. The pathway finish should be compatible with the wheelchair and crutch movements and the paths should be guided by tactile tiles and proper lighting (Fig. 3) where ever needed.

Entry/ Exit

The entry and exit to the school or campus should be even and well maintained for the students moving with wheelchairs or crutches and led by tactile or warning texture for the visually impaired people. Signage and symbols at each path approaching entrance, exit, and turning points for leading deaf people. A slip-resistant flooring finish should be used for better movement within the space.

Stair and Ramp

The ramp should be the main mean of movement for physically challenged students. The slope should be 1:12 for wheelchair movement. Placement of warning tactile paving, 300mm before the beginning and at the end of a flight of stairs and the ramp is necessary for the movement of blind students. Stairs and Ramps should be guided by handrails on both sides and their placement should be done at 760-900 mm level for ease of accessibility. The handrails should continue at the walls of the landings also for a continuous guide. The width of the ramp should be at least 1200 mm. For allowing the movement of two wheelchairs simultaneously, the ramp should be about 1800 mm wide. After a stretch of 5m in length or after achieving a height of 750mm the ramp should have a landing. The edges of the stairs should have contrasting cool colorsto guide the visually impaired students. Braille patterns on the handrails of the staircase will aid blind students to know about the floors and spaces they are approaching. Both the ramp and staircase should be lit with enough light at the time of access.

Corridors

A well-lit corridor should have a width of 1200-1800mm which should be kept unobstructed by any protruding edges of furniture or objects. For the placement of unavoidable objects or furniture, a maximum of 100mm can be allowed to protrude within the corridor. A strip of bright/ fluorescent colour should be placed along the side of the corridor to guide the student with partial visual impairment. Signage, tactile paving, and Braille pattern should aid differently abled students to navigate along the corridors. At the turning points of the corridors, round mirrors can be placed to alert deaf students.

Doors and Windows

A sliding door of a minimum clear width of 900mm is preferred in most of the spaces of an inclusive school. Doors should have vision panels from 900mm (level of the bottom edge of the room floor) to 1500mm (level of top edge from the floor). Doors should have a kick plate of width 300mm to withstand any kind of scratch caused by a wheelchair or crutch. The door handles should be at a height of 850-1100 mm for easy access. The window sill should be at a level of 600mm for better vision of the external view for the students sitting on wheelchairs.

Classrooms

In the classrooms of differently abled students, one-to-one interaction with teachers is appreciated. As a result of which lesser numbers of students are found in these classes while in classrooms for students with no special needs, a conventional arrangement (Fig. 4) is done. Classrooms for physically challenged students (Fig. 5) should have enough space for wheelchairs circulation within the class. The height of the desks and chairs should be adjustable. In the classrooms for visually impaired students, circulation is guided by tactile flooring, textured walls, and braille patterns (Fig. 6). Desks should be of matte finish light color to avoid glare. In the case of the classrooms of deaf students (Fig. 7), necessary signage, symbols, and pictograms are provided for communication purposes.

Toilets and Wash Area

In the toilet cubicles, toilets should be separated based on gender. In each toilet block, there should be at least one toilet with the provision of wheelchair access (Fig. 8) with an entrance of minimum 900mm width. There should be enough space within the toilet for the circulation of a wheelchair (floor area of 2000x2200 Sq.mm. with a wash basin at a height of 650mm from the floor) (Fig. 9). Tactile paving at a distance of 300mm before the urinals, wash basin, water closet is preferred to guide the visually impaired students. Signage and symbols along with braille plates should be placed outside the toilet for better navigation. The wash basins should be placed at different levels (Fig. 10) for better access by students of various heights and those who are wheelchair seated.

Playground

A pathway of width 1800 mm is needed for the movement of wheelchairs in the playground. Seating arrangements under tree shades should be installed for the students with a clear space of 800 mm x 1200mm for wheelchair users. The visually

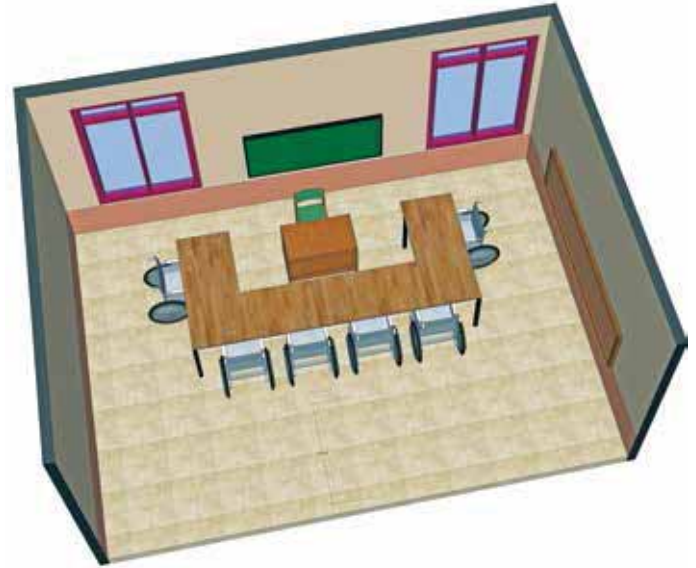


Figure 5: Classroom for physically challenged

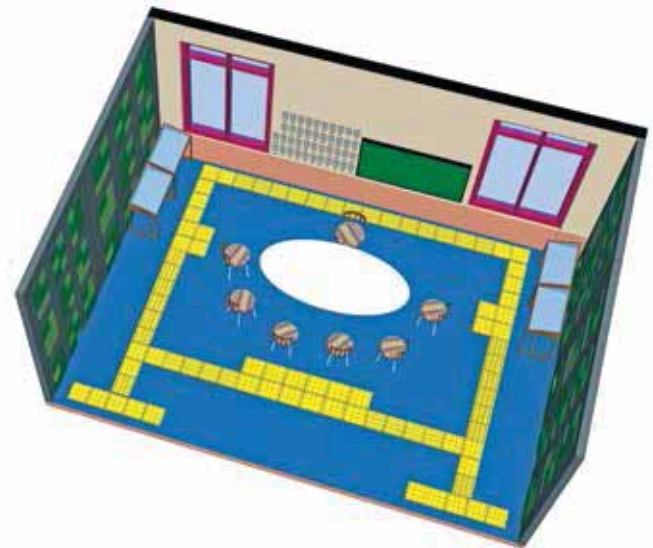


Figure 6: Classroom for visually impaired

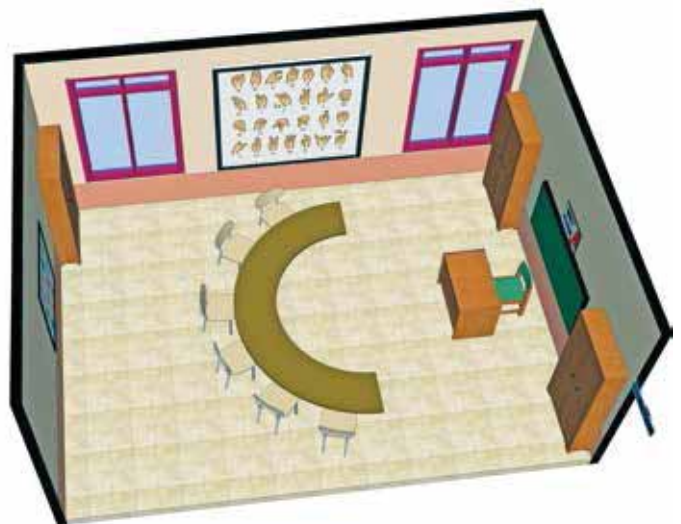


Figure 7: Classroom for hearing and speech impaired

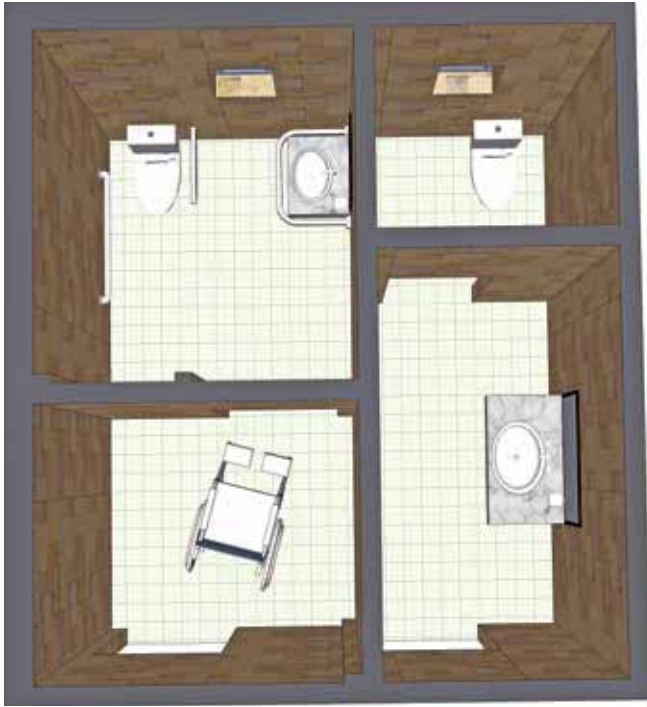


Figure 8: A combined toilet cubical with a normal toilet and wheelchair-accessible toilet

impaired students should be guided by tactile tiles in the playground. For any kind of level differences, a ramp should be provided for easing accessibility. Signage should be placed to guide deaf students in the playground.

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Specifications are followed from Guidelines and space standards for Barrier Free Built Environment for Disabled and Elderly Persons 1988, Central Public Works Department, Govt. of India, National building Code of India, 2016 and IS 8827 (1978): Recommendations for basic requirements of school buildings and Making Schools Accessible to Children with Disabilities, a guidebook by UNICEF, India.

3. Methodology of the Case Application-

The total procedure of the project is segregated into various steps methodically. The methodological studies provide useful information on the effectiveness of the supplementary search methods, often seeking to evaluate aspects of the method



Figure 9: An interior scene of the toilet

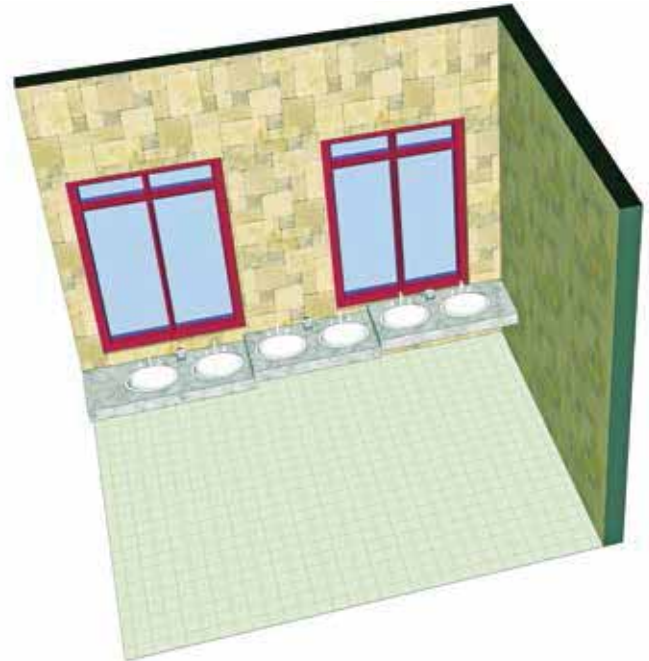


Figure 10: Wash area with wash basins at a different level

to improve effectiveness or efficiency (Cooper et al., 2017). Firstly, the background, relevance, and need of the project are established, followed by a thorough site analysis under a set of parameters and criteria which are -location, landform, orientation, climate, visibility, movement, activity, space, form, architectural features, etc. Two national and three international case studies of schools have been done based on the selected parameters. Space standards

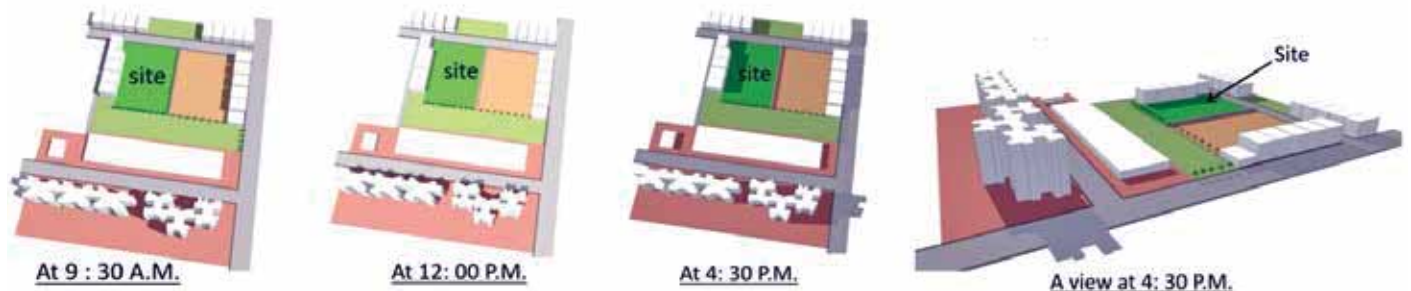


Figure 11: Sciography of the site based on the sun path

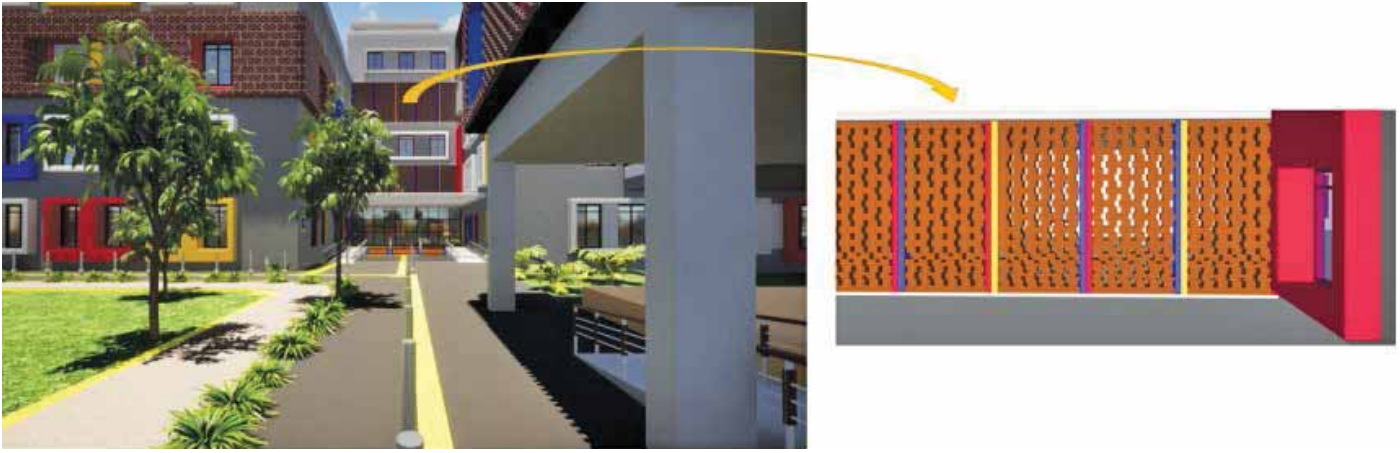


Figure 12: A view of the brick jali at the corridor

are referred from N.B.C and bye-laws. Based on the inferences, the primary design guidelines have been developed which is further followed by site level and building level design concept development and conceptualization of built forms within the site.

4. Results and Findings

4.1 Site Study

The site (7972.30 sq. m.) is located at HIDCO Action Area 1, New Town, Kolkata, West Bengal, India (Chakraborti, 2019). The nearest airport to the site is *Netaji Subhash Chandra Bose International Airport* while the nearest railway station is *Bidhannagar Railway Station*. The nearest metro station to the site is *Nazrul Tirtha Metro Station* and the nearest bus stand is *New Town Bus Terminus*. The site is abutted by street no. 53 in the north, with the N.K.D.A. football coaching stadium lying in the east. Further north of the street lies the residential belt of 'AA' block along with a water body and to the south lays the park of 'AD' block. The west of the site is adorned by the residential belt of AD block.

Inferences from Site Study

Location - The differently abled children may face difficulty to cover the distance from the bus stop to the site due to the lack of proper transport modes connecting the site with the bus stop or metro station.

Landform - Construction can be done with ease on the flat land of the site and isolated footing can be done for the purpose of construction. The soil is fertile in nature as the site is covered with many weeds and grass.

Climate - The region has hot and humid summer and pleasant winter. The site doesn't get any such shadow till noon. However, during the late afternoon hours, the western side is shaded (Fig. 11). In winter, north

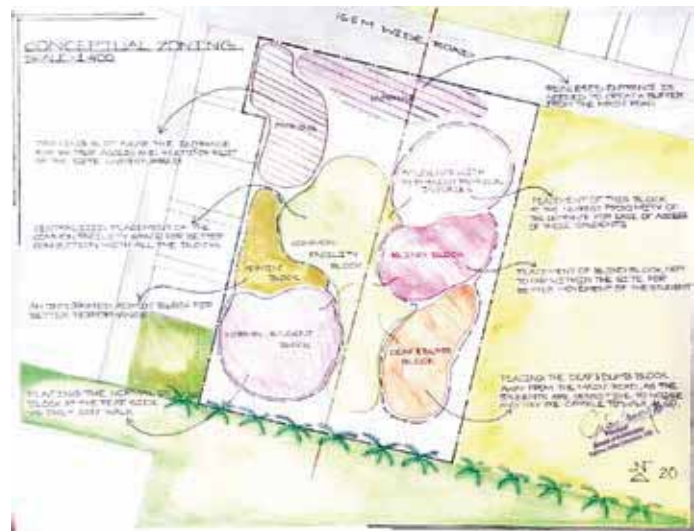


Figure 13: Conceptual Zoning



Figure 15: A view showing the arrangements of building blocks in an ascending order

chilled winds blow from the water body to the site. The south needs to be treated with shading devices.

Orientation - The NKDA Football Coaching Stadium is acting as the landmark for the site. The greenery in the surrounding is helpful for a school's atmosphere.

Visibility - The site is not clearly visible from far so with the help of the design it must be made visible and unique.



Figure 14: Site Plan

Movement, Access, and Parking - The main mean of access to the site lies along street no. 53. So, the entrances to the site have to be placed there. The site being more or less centrally located from the two nodes, so they are equally affecting the site, as a result of which a recessed entrance has to be made. Parking slot needs to be such placed so that it remains easily connected with the entrances to the site.

Activities - The green corridor is separating the site from the public zone at the rear side. Here people’s activity is oriented to residential activities and from that point of view the site is secured. Open spaces creation within the site to balance the surrounding congested urban fabric.

4.2 Case Study

India is still on the verge of developing inclusive schools. So, to gather knowledge about designing an inclusive school, national case studies, consisting of one conventional school and a special school, along with three international case studies form the comparative analysis.

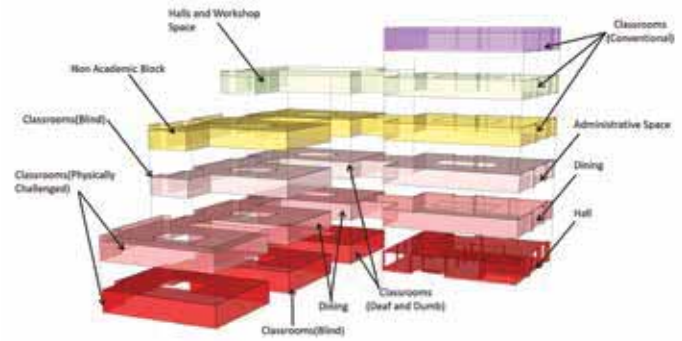


Figure 16: Building Anatomy

Case I- Gokhale Memorial Girls’ School, Kolkata, India, has been chosen for being a successfully running conventional school.

Case II- Tollygaunge Light House for The Blind, Kolkata, India, is selected by being inspired by the article released about the school in The Hindustan Times on World Sight Day (2018)

Inclusive Schools:

Case III- Akita Total Support Area, Akita Prefecture, Japan (“Akita Total Support Area|Work|AZUSASEKKEI,” n.d.)

Case IV- Ishikawa Prefectural School for Students with Special Needs, Ishikawa Prefecture, Japan (“E Sneschool,” n.d.)

Case V- Kagoshima School for the Blind, Kagoshima Prefecture, Japan as a special school example (“E Sneschool,” n.d.)

Inferences from Case Studies at the Site Level

The school campus should be safe and secure for the students. Developing the feeling of being safe in the playground outside the school building is a necessity as seen while studying case I. The circulation in the campus should be kept straight forward and simple by following various architectural barrier free techniques. The driveway and pedestrian pathway should be separated by restricting the vehicular movement to a limited space within the campus.

Inferences from Case Studies at the Building Level

Creating a welcoming and interesting entrance lobby for the users is needed. Maximum provision of natural light and ventilation should be there in the classrooms and corridors. A straight and simple corridor layout is required along with properly segregated boys’ and girls’ toilets at each floor level. Placement of the common facilities with ease of access for the different special school blocks is necessary. Various barrier free architectural features should be applied within the building space for guiding the students.



Figure 17: Floor Plans



Figure 18: Sections



Figure 19: Elevations



Figure 20: Use of various barrier free techniques within the campus for better circulation

5. Discussion

Based on all the studies, the design of the built-up area is as follows –

5.1 Concept Development

Site Geometry

The site being rectangular in shape, a linear axis has been drawn by joining the greenery and water body to the north with the park south of the site. The imaginary axis running across the site has divided it into two halves. For joining the greenery in opposite direction of the site, the green spaces within can be aligned along the axis creating a sense of a continuous green zone.

5.2 Spatial Programming: Site Level & Building Level

The spatial programming includes the broad category of zones:

Site level security and services (security room, electrical room, pump room and parking), **Administration Space** (reception, waiting area, staff office, rooms- principal's, vice principal's, meeting, staff toilet),

Academic Space (Zone for Physically Challenged - waiting lobby, reception, office, staff room, classrooms, infirmary, physical education room, toilets, computer lab, Zone for Visually Impaired- waiting lobby, reception, office, staff room, classrooms, sickroom, toilets, Zone for Hearing and Speech Impaired - waiting lobby, reception, office, staff room, classrooms, sickroom, toilets, speech therapy room, Zone for 'Students with no special needs' - classrooms, sickroom, staff room, toilets, computer lab),

Common Spaces (assembly hall, workshop space, seminar halls, science lab, library, dining area, house rooms, art and craft rooms, activity room,

common computer lab for blind and deaf students with respective arrangements, toilet blocks), and **Building level Services** as shown in Fig. 13, 14 & 17. The entrances are recessed and welcoming, along the front road (street no. 53).

The parking has been linked with this road as it serves as the main and one and only road for the site. The playground should be guarded by the building mass to develop a sense of security among the students. A climate-oriented design can be encouraged like shading devices such as brick jali (Fig. 12) can be applied to the south and west to avoid direct heat and glare within the classrooms; while the north light should be encouraged within the building. Placement of the study spaces with a view of the surrounding greenery can be done. A simple flow of movement should be designed for the ease of all categories of children (for both the students with special needs, and students with no special needs) by following various barrier free architectural techniques.

The design should be executed in such a manner, that despite being a single building mass, each zone (physically challenged zone, blind zone, deaf zone, and children with no special needs zone) can be identified distinctively from outside. Sense of segregation as well as assembly of the above-mentioned zones can be seen or achieved from the entrances to the site and site level with the help of increasing the building height in an ascending order. Use of primary colours on the facade will create a sense of joyful atmosphere. Use of double walls and brick facades for elevation treatment has been applied.

5.3 Building Anatomy

The ground floor of the building mass is dedicated to the primary classrooms, infirmary, staff-room, and offices for the physically challenged, blind and deaf students (within their specific zones) along with the gathering hall for everyone. **The first floor** comprises of rest of the secondary classrooms of the physically challenged students as it provides maximum ease in navigation and a vast stretch of common dining space for all students along with services (kitchen, pantry etc.). **The second floor** consists of the secondary classrooms of the blind and deaf students along with the main administrative block. **The third floor** has various common spaces (library, science lab, house room, activity room, art, and craft rooms etc.) and some of the primary classrooms for the children with no special needs. **The fourth floor** comprises of secondary class children with no special needs along with common workshop space and seminar halls (for occasional usage). **The fifth floor** is dedicated to the classrooms for children with no special needs.

6. Conclusion

This project is an attempt to assemble the students of differently abled categories within same educational facility to habituate the society and reduce discrimination and inequality, as well as raise awareness against the imbalance in the scale of privilege between the special children and children with no special.

This Design project tries to introduce conscious design measures at both site and building level. This is in order to facilitate ease of access and usage by all children irrespective of ability and health. Common areas layout, placement and a simple flow of movement should be designed so that it allows for inclusive access and usability by all students and faculties and other stakeholders.

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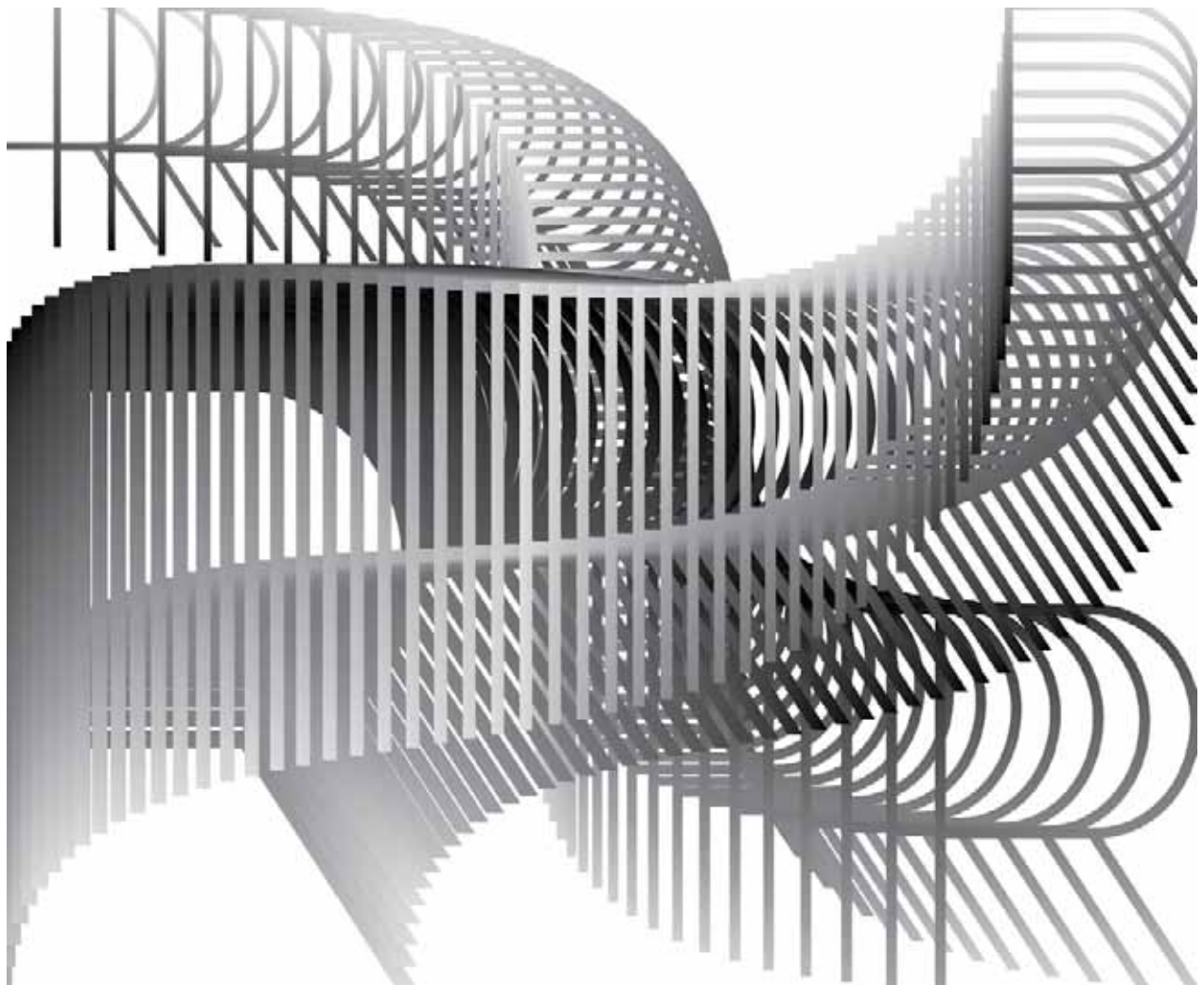


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Process Based Design Studio

Documentation of the Design Process

By Ar. Sangamithra. S, Dr. A. Navara and Ar. Muzakkir G. M. Bijli



Abstract

Process-based design in architecture prioritizes iterative and collaborative methods to create buildings and spaces that effectively respond to diverse considerations of the site and its surroundings. The 1st semester M. Arch design studio was introduced with the intent of making young architects aware of this holistic design approach that addresses the most crucial aspect of a given design situation. This documentation throws light on the concepts and process adopted in designing a mixed-use commercial complex along with the computational approach in which it was required to be designed.

Key words: Process based design, computational, emergence, parametric, iterative.

1. Introduction

Global issues that we face in the world today like urbanization, sustainability, etc., has significant impact on architecture as they shape the way in which we design, construct and use buildings and urban spaces. Hence, the architectural design process involved requires a richer analysis that aids in grasping opportunities to enhance the character, quality and function of a locality in order to produce relevant design solutions. A process-based design that focuses on creating buildings and spaces that effectively respond to the needs of the users, the environment and the context will have salutary

effects on the society and communities. Hence, to explore architectural design as an end product of a process comprised of study and analysis through diagramming, mapping and collaboration, the 'process based' design studio was introduced in the first semester of the. M. Arch. program. Furthermore, a computational approach was adopted to make the exercise a generative/iterative process using Rhino/Grasshopper software. Models were generated using specific parameters that made the design output more rationale and scientific.

2. Location/Site

The given site is a 25-acre land at Foreshore Estate, Pattinapakkam, Chennai facing the second longest beach in the world – Marina. The proposal for designing a large commercial mixed-use complex - Marina Business Centre (Refer Figure 1), comprising a five-star hotel, shopping mall, convention center, office complex and co-living space, came with an agenda of making the site a new landmark of the city.

3. Methodology

The conventional method of doing case studies followed by site visits, site analysis and design development adhering to Tamil Nadu Combined Development and Building Rules (TNCDBR 2019) was followed. As a part of understanding the process-based design development and computational approach, specific case studies were selected to



Figure 1: Marina Business Centre design at Foreshore Estate, Pattinapakkam, Chennai

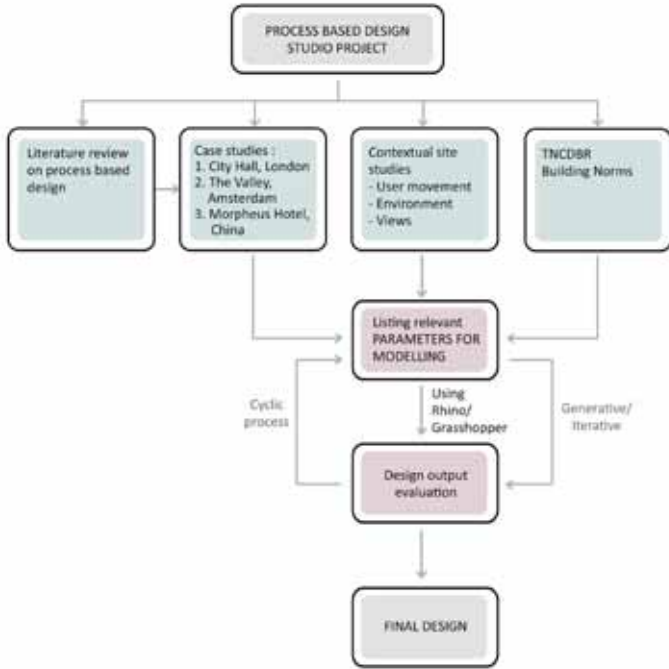


Figure 2: Design methodology

understand the various factors that influence the decision making involved in such processes. The case studies include – More London: City Hall, London by Foster+ Partners; The Valley, Amsterdam by MVRDV; Morpheus Hotel, China by Zaha Hadid. There are a few prominent factors that influenced decision-making from the above mentioned case studies. For instance, the master planning of More London and the planning of City Hall involved “user movement” inside the campus making it one with its surroundings, whereas in case of The Valley by MVRDV “view” as a

parameter was chosen to facilitate visual connection from every individual residence to the exterior environment. The design methodology adopted for the studio exercise is given in Figure 2.

4. Process

The approach to this design problem was primarily a combination of concept of emergence and design through drawing. The design organically evolved considering two factors – views and people movement. Both of these factors that arose, were a result of understanding the key components that have significant impact on creating an imageability for the site, to make it a landmark of the city. Views – what people see and how people recognize the built environment so that it becomes a landmark; People movement – a landmark becomes iconic only when it has an impact on the people and the activities spotted in and around the site.

4.1 Concept of emergence

The concept of emergence from the context refers to how collective properties of design arise from the properties of parts and how behavior at a larger scale arises from the detailed structure, behavior and relationships at a finer scale.

In this design for instance, the evolution of the built form was majorly influenced by the views from the site (as seen in Figure 3(i)) and of the site (as seen in Figure 3(ii)) i.e., gradual movement of users around the site focusing towards the site and view points from the site to the surroundings. A detailed study

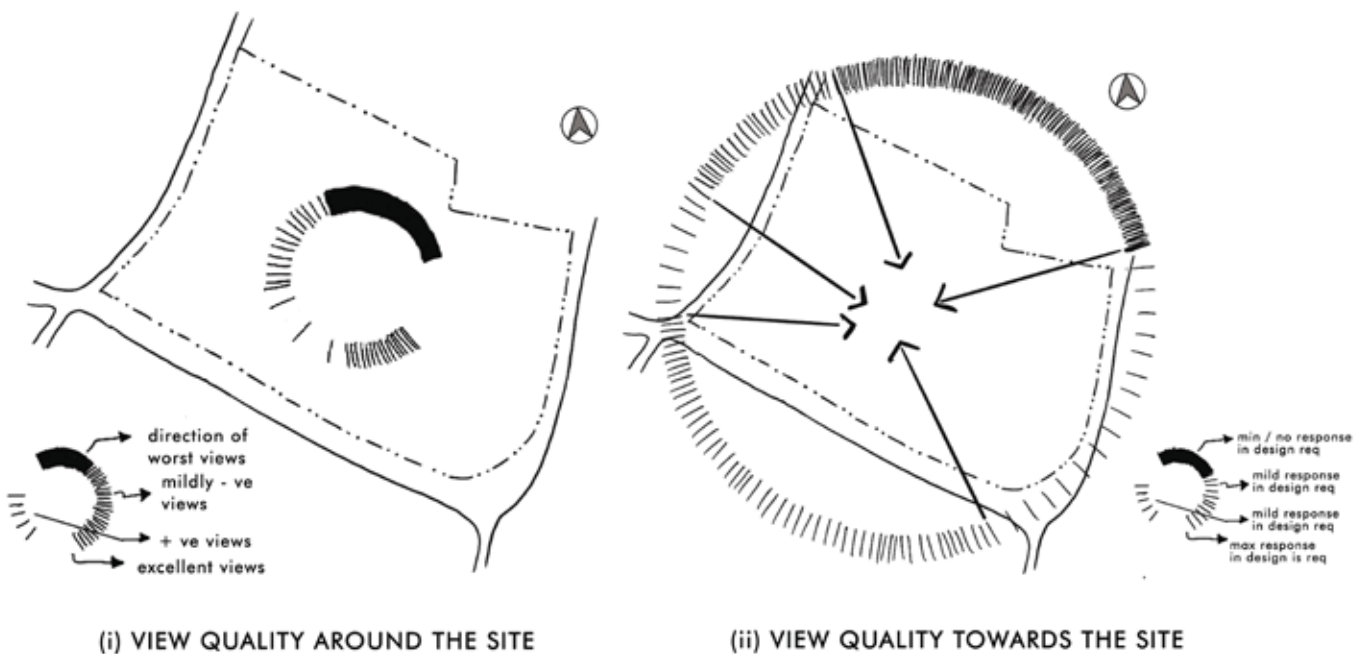


Figure 3: View quality in and around the site

(refer Figure 5 to Figure 8) was carried out in terms of analyzing the above view factors to produce a quality and relevant design output that fits the context.

The second component that influenced the design are the people and their activities around the site. Figure 4 refers to mapping of the public activities around the site that can have significant impact on the site programming and zoning. The Santhome High Road and Foreshore Estate Road are actively used by the public for cycling and walking during specific time period of the day i.e. the morning and evening hours. Additionally, the fish market and food stalls seen in the Foreshore Estate Road adds specific character to the place. Programming spill out spaces in the site that acts as an extension of these activities around the site makes the design more viable to the context (refer Figure 9 for analytical diagrams).

4.2 Design through drawing

After understanding the various factors influencing the design parameters (refer Figure 3 and Figure 4) the process that was most suitable for the development of design was – design through drawings. Drawings are done by the designer not only to communicate with others but rather as a part of design thinking process itself, as referred by Donald Schon, an American Philosopher in Design as a reflective conversation with the situation.

In addition to Figure 3(i), the drawings in Figure 5 helped in understanding the view qualities around the site and facilitated the program distribution



Figure 4: Site context

throughout the site, marking the onset of zoning process. The outcome of such visual analysis led to possible design inferences (as seen in Figure 6) pertaining to the specific view conditions of the site. From left to right - in case of positions inside the site that generates excellent and positive views (Figure 6 (i)) the hierarchy in terms of the height of the building can be focused towards creating maximum view for the buildings located inside the site. Whereas in case of having buildings facing worst view direction (Figure 6(ii)) maximum weightage can be given for vertically zoning the spaces with service core and other engineering facilities. Providing aesthetically pleasing landscapes and by designing inward looking outdoor rooms, the focus from mildly negative views (Figure 6 (iii)) can be transposed.

The drawings as seen in Figure 8 is a result of analyzing view quality into the site from its surroundings (refer both Figure 3(ii) and Figure 7). The drawings (i) and

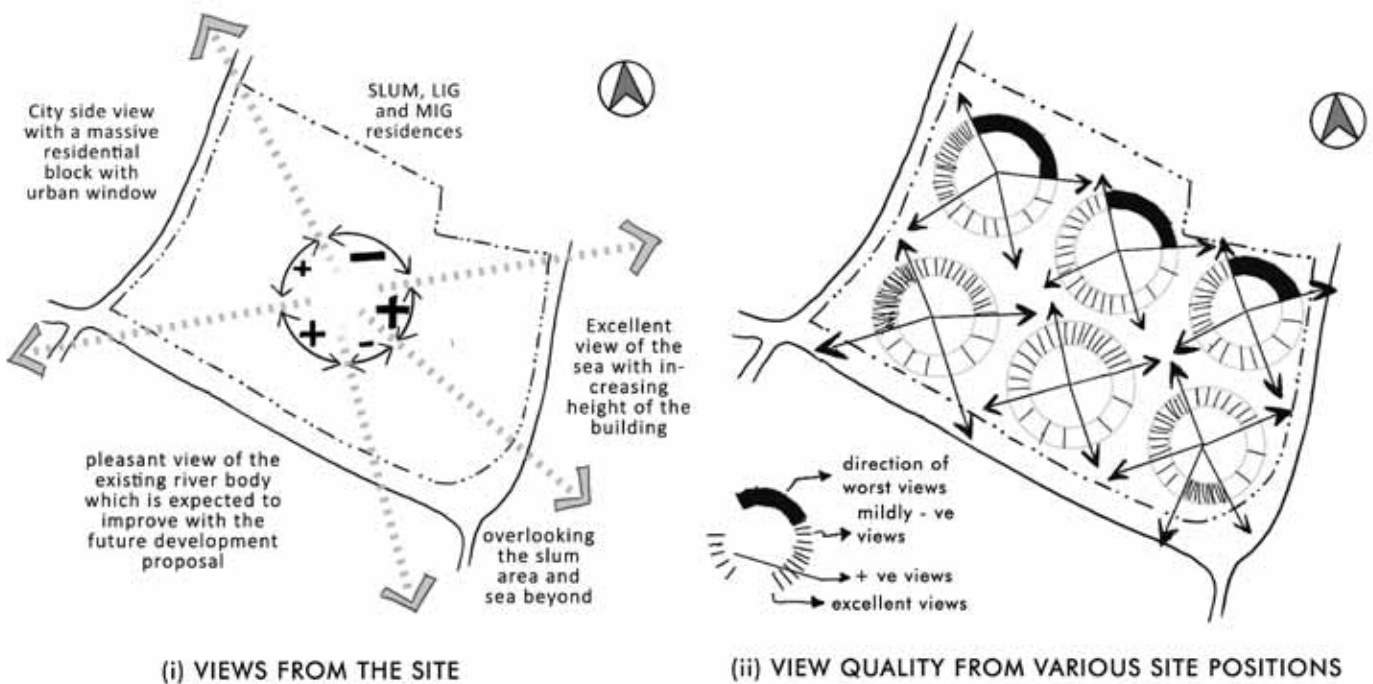


Figure 5: View quality analysis

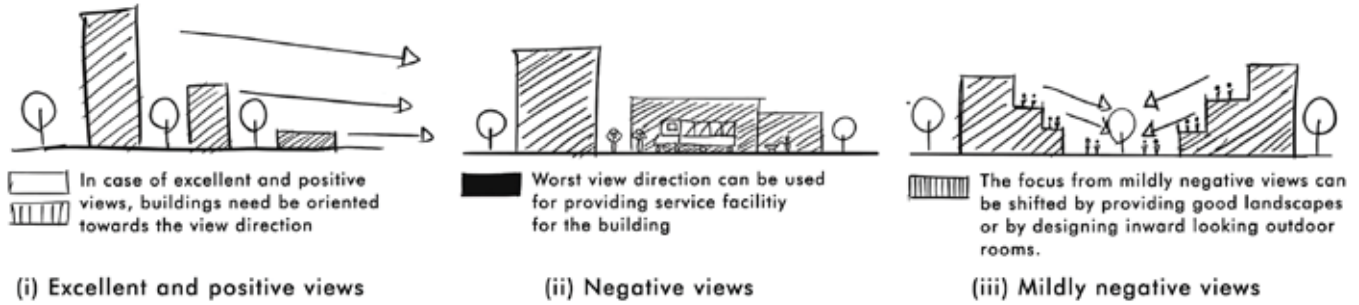
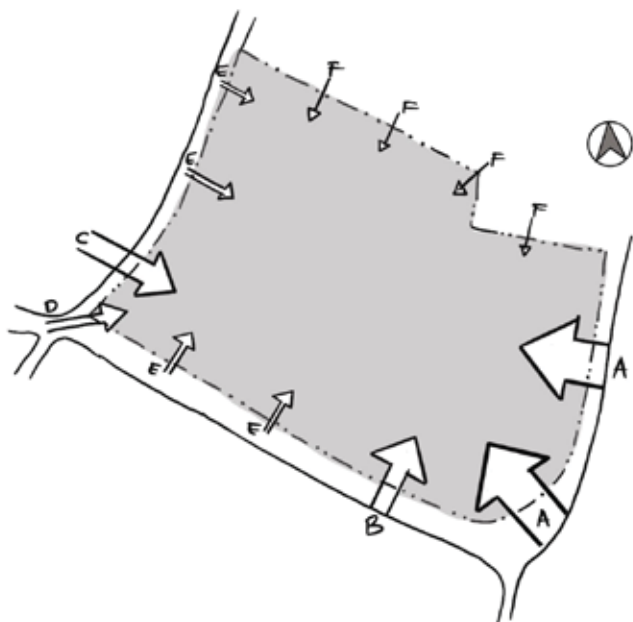


Figure 6: Design interventions pertaining to view conditions of the site

(ii) in Figure 8 refers to maximum response to design that can be made considering the view quality from the position A in Figure 7 which has ample cone of vision covering the entire site (as seen in photo 03, Figure 7). Similarly, drawings (iii), (iv) and (v) in Figure 8 cite the minimum response to design from positions E and D (refer photos 01, 02 and 04 of Figure 7) where the 7-meter-tall trees obstruct the angle of vision, thus challenging the opportunities for design intervention.

The contextual analysis carried out to understand the various activities happening around the site (refer Figure 4) led to influential design interventions as seen in the diagrams in Figure 9. These diagrams stand as an example of how relationships at a finer scale can make remarkable impact on design at a larger scale.

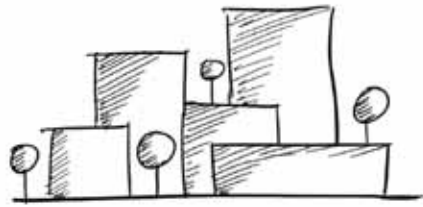
- In order to establish a strong connection between the program and the site context, it was essential to zone the spaces (as seen in Figure 9(i)) in a manner that helped achieve gradual movement of people transitioning from inside the site to the exterior.
- The diagrams in Figure 9 (ii and iii) are attempts in curating a relationship between people within the business center at different levels and with nature itself.
- Open colonnaded corridors are a part of common visuals in public buildings in Chennai. The drawing (iv) in Figure 9 is a diagrammatic representation of a colonnaded corridor which can be accessed by the public as an extension of the walking/ jogging activity spotted around the site (refer Figure 4) and is expected to run through the entire interior façade of the building complex.



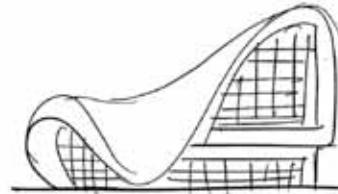
NOTE : Width of the arrow indicates relative importance of responding to views in design.

- A - Major view from the Foreshore estate promenade
- B - View from the bus stand / public facility
- C - View from luxury residential block
- D - Vehicular/ pedestrian view from the Mandaveli road
- E - Pedestrian/ Vehicular view
- F - View from the residences access

Figure 7: View quality into the site



(i) Showcase the built environment through massing



(ii) Create a striking building form



(iii) Create a figure background contrast through texture



(iv) Create a figure background contrast through massing

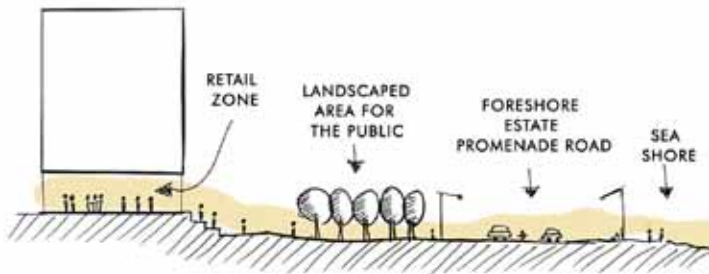


(v) Create a figure background contrast through form

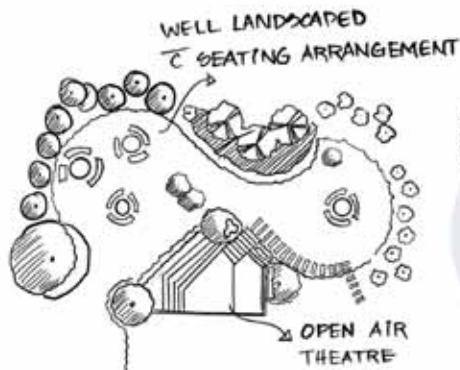
Figure 8: Design response to existing view conditions towards the site

In addition to the above manually analyzed factors, a computational approach further more enhanced the design process parametrically, creating an instrumental impact on designing spaces that establish congruence and continuity.

Choosing view as a parameter translated spaces into pixelated built environment with abundance of break out spaces (refer Figure 9 (iii)) immersing themselves in the outdoor environment.



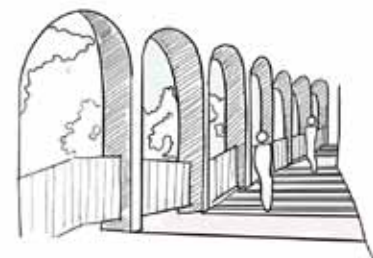
(i) FLOW OF ACTIVITIES FROM THE OUTSIDE TO THE BUILT ENVIRONMENT



(ii) CONNECTING THE INDOOR TO OUTDOOR SPACE IS A FUNDAMENTAL PSYCHOLOGICAL NECESSITY



(iii) BREAK OUT SPACES THAT ALLOWS INTERACTION AT VARIED LEVELS



(iv) COLONNATED PATHWAY THAT RUNS THROUGH THE BUILDING

Figure 9: Design interventions pertaining to activity analysis around the site



(i) SHOWCASING THE BUILT ENVIRONMENT THROUGH MASSING
(compare with FIG 8(i))



(ii) THE FOCUS FROM MILDLY NEGATIVE VIEWS CAN BE SHIFTED BY PROVIDING GOOD LANDSCAPES OR BY DESIGNING INWARD LOOKING OUTDOOR ROOMS
(compare with FIG 6(iii))



(iii) BREAKING THE BUILT FORM BY GIVING AN ARCHED PATH WAY THAT REFLECTS THE IMAGE OF THE OLD BUILDINGS IN THE CITY
(compare with FIG 9(iv))



(iv) TRANQUILITY IN NATURE IS A BASIC RIGHT TO WHICH EVERYONE IS ENTITLED
(compare with FIG 9(ii))



(v) CONNECTING THE INDOOR TO OUTDOOR SPACE IS A FUNDAMENTAL PSYCHOLOGICAL NECESSITY
(compare with FIG 9(ii))



(vi) FLOW OF ACTIVITIES FROM SEA SHORE TO THE BUILT ENVIRONMENT
(compare with FIG 9(i))

Figure 10: Final design output (compare the images with drawings to understand the impact and role of drawings)

5. Conclusion

Architecture as a discipline has undergone excessive changes in the way in which the design output is derived. This process-based design studio revealed that architectural designing is to create more than just final products, it is about improving human experience in a space by being sensitive to the context in which the building is located. The computational approach enriched the design by exploring the boundaries of generative/parametric methods in evolution of design through scientifically tested solutions.

The pertinence of this design to its context vitally depends on the concept of emergence from the context. In the design through drawing approach, the drawings offered a reasonably accurate and reliable model of appearance (refer Figure 1 and Figure 10 for comparing the conceptual drawings with their respective final design output). A designer working in this way has a great manipulative freedom. This process of drawing and redrawing iteratively could continue until all the problems a designer could foresee are resolved. This process encouraged experimentation and liberated the creative imagination in a revolutionary way.

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All Images Courtesy: Authors



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Search of a Generic Essence: Architecture and Beyond

Ar. Pooja Khairnar

Architecture is the consideration of things that cross the threshold of bare necessities. It is something beyond being the object in isolation and more about being the first screen of interaction for everything and everyone who enters it or sees it for whatever reason and program. Thus the builder is responsible for thinking about the building in a larger context than it seems to be situated in. This perspective suggests that we should move away from solely celebrating buildings for their superficial aesthetics. We need to embrace the idea that architecture has to be more than just a building for occupying; it has to be held responsible for creating newer unimagined contexts to form the newer built.

Architecture fascinates me, but I am not moved by visual perception. There are a range of filters that set in through which I perceive the building that I am observing. This enables me to see the intention behind the building. The intention constitutes the brief and anchors the project. In our studio, we usually spend time analysing and criticizing the buildings we are exposed to. This develops a sense of understanding of projects beyond the described words. Most of the time we don't even read the detailed description provided as I believe drawings speak a lot and our interaction with them can reveal the unintended consequences which are more helpful while developing buildings and formulating ideas. This observation is not limited to architecture but extends to the movies we watch, the theories we read about, human and animal

behaviour, culture, contextual responses, food, and even nature. All of this creates some sort of filter in our minds through which we later analyse our projects at the stage of development.

I am elaborating on the idea of intention—it drives the brief and opens up the specific opportunities to manifest the built uniquely. Let me tell you an observation I came across a few years back about penguins. As seen in figure 1, they have developed a social behaviour in which they huddle together in large groups, at times in thousands, when it gets cold. So there is a continual movement of penguins from the outside of the group to the centre, each circle taking its turn in the worst place against the wind and raw cold.

We can observe a similar phenomenon in the built environment which has existed for thousands of years. These are careful creation of social responses to the extremities that they stand against and are still performing in. Take the case of Rajasthan—a state in the north-western part of India whose arid climatic conditions has drastically shaped the built form of the region (see figure 2). Closely placed built formation and inward-looking designs demonstrate the natural way of sustaining in the extreme climatic conditions, like the penguins. As Norberg Schulz explained, 'genius loci' is the nature of a place in terms of the physical reality of the land and its relationship to the built form. It is the meaning of the place in terms of its character and character motifs of cultural values.



Figure 1: Despite subzero conditions, penguins can generate high temperatures within their huddles.

Picture Credits: Fred Olivier/Nature Picture Library/Science Photo Library

During human evolution, when the idea of a shelter persisted, humans derived novel ways of building them. However, these processes of building were not only limited to the use of materials and techniques but also a reflection of their own identity. Humans are always inclined to society, and this reflection is deeply related to their community, the people they interact with, and the experiences they have had in their lifetimes. This reflection or embraced image of self is never permanent, and it is often reflected through the choices one makes. Some examples of these are seen when we opt for specific friends or we establish a bond with certain family members or even the food; this quality of mankind has kept revolutionizing the way we live and develop the built environment around us.

So what are we looking for when we see a context and when we try to insert a program into that context? What lenses do we borrow from the past and what filters do we add for the future?

My practice has always been based on understanding these questions and bridging the gap through a meaningful creation that remains generic in nature and retains its essence. During my

research for the master's program, I derived the term 'generic essence' which became the guiding force my practice. *Generic* is all that is related to one another to form a certain classification and essence is a quality that determines the character.

"...we shape clay into a pot, but it is the emptiness inside that holds whatever we pour in..." – Tao Te Ching

It is the emptiness inside which is the essence of the kettle (see figure 3). This emptiness within the kettle holds whatever we pour into it and it takes the shape. Within the varied available shapes and forms of kettles, the quality to contain and its ability to pour is the *generic essence* of a kettle. The availability of material, technology, and cultural relevance, would further elaborate its aesthetics.

Similarly, though the built environment evolves from the generic quality of the place, it slowly adopts the spirit of the people and further contributes to the larger context by through its essence. Here, the meaning and structure of creation are mere reflections of humans' understanding of the living quality, existential situation, and the environment around them. Several Asian towns have been

derived through this system of planning for their habitats, giving these towns their own identity. The context further helps in establishing a tangible expression of the intangible generic essence.

However, architecture is an intangible subject and it is difficult to value or measure it. Here the meaningful quality of creation is based on an experiential manner of co-human interactions or their relation to the environment. Either way *generic essence* constitutes in a context and on further explorations, we may find clues to start with our creation in the existing scape. The important transition here is to read those intangible aspects and to choose a response that helps to manifest the same. Hence, reading the unsaid briefs is one of the most important aspects of our studio's approach.

In our school project "Community Canvas", situated in a small settlement of 100 houses, the access to contemporary ways of construction is still 30km away from this cluster. It is a settlement built in the vernacular architecture of Maharashtra. They build their houses with locally sourced materials. While understanding the context, the search was for that

'gene' and its deeply rooted values that form the essence of this settlement. The circular form is not the geometric language of the village but the placement of the existing rectangular houses which offers flexibility in the unbuilt spaces (see figure 4). This fluidity becomes the design parameter and gets manifested in the form of circular walls whose thresholds are designed to be flexible. This circular organization of space appears to be generic even after the tangible parameter of the existing built form is not followed.

Here, there was a genuine concern of being unable to accommodate all the students in one existing hexagonal class. Due to the lack of funds and resources, we found that the teachers had invented creative ways of learning for these children. They had charts painted on all possible surfaces like walls, floors, and tree trunks too! They played several games devised smartly with poems, mathematical theorems, history, and stories. We realized that this developed an interdependency between the younger and the elder kids and everyone in collaboration learned together. These kids are considered to be underprivileged as they

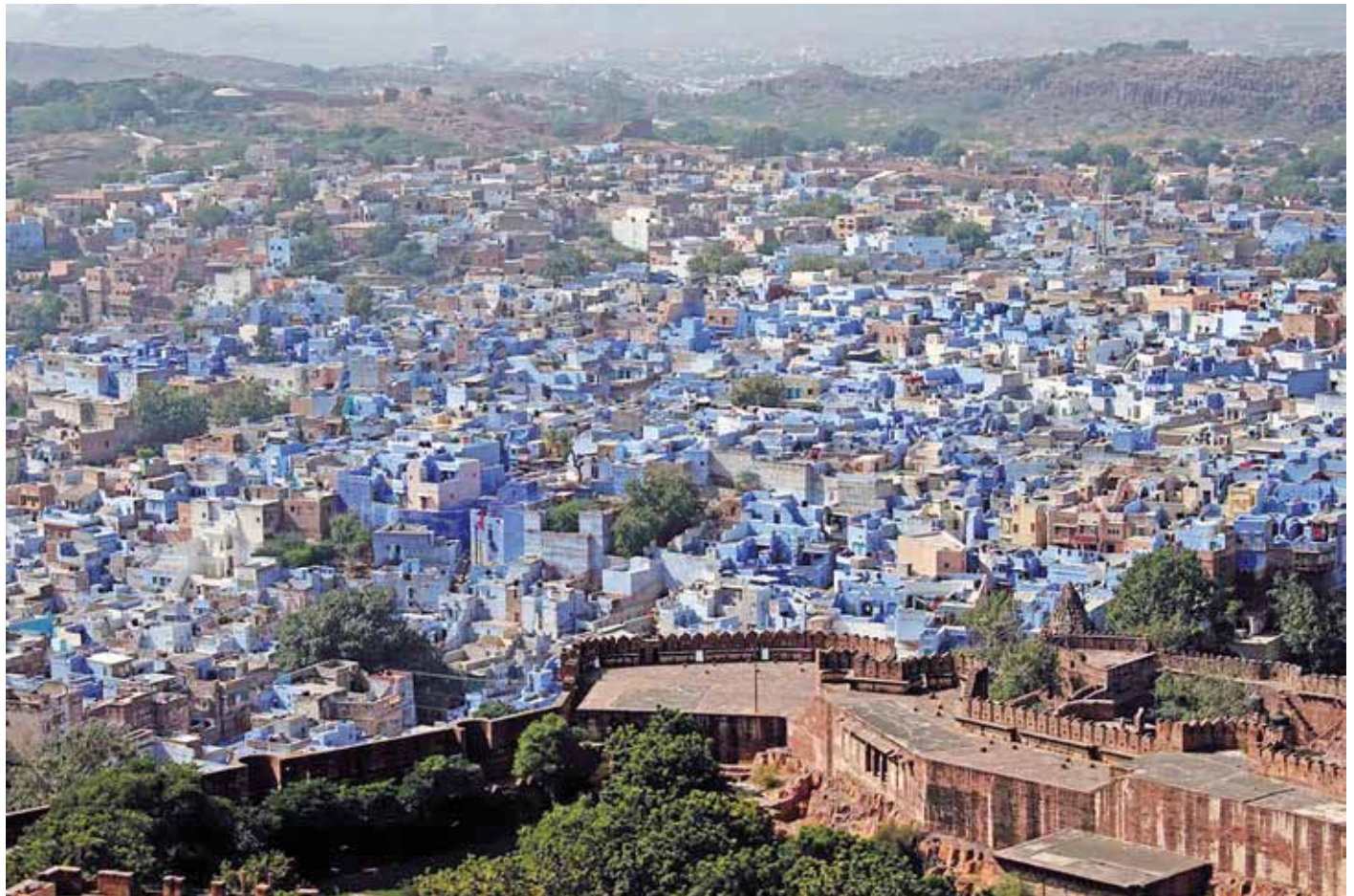


Figure 2: Rajasthan: the built form of the place

Source: https://commons.wikimedia.org/wiki/File:Jodhpur,_the_Blue_City,_Rajasthan.jpg



Figure 3: The kettle and the essence
 Source: By Salifu Wumpini Hussein - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=128822448>

are deprived of the amenities that our urban life provides, but to us, it felt to be the most natural way of sustaining and learning useful tricks and skills for day-to-day living. We wanted them to have better resources but not to lose the beauty

of their living and learning process. Here, only an intervention was needed which could reduce their dependency on funds. This was envisaged to become a prototype for thousands of the West Asian villages of a similar scale.

Keeping in mind that the compound wall is never part of a village vocabulary, in Community Canvas, we started with the idea of having a curved wall that would act as a desired peripheral wall to avoid farm animals and also provide an unending canvas for writing, as seen in figure 7. This gave us the freedom to achieve different-sized spaces for multiple activities. We realized that though the spaces formed would be playful and engaging for children, there is a need for multipurpose infrastructure for villagers too as there was a lack of basic facilities like healthcare and social gatherings (see figure 8).

Having a sensitive approach towards design and deriving the intention for the project are a result of a few key learnings from the regional vernacular



Figure 4: Community Canvas project by PK_iNCEPTION
 Source: Sagar Bondarde



Figure 5: Community Canvas project by PK_inCEPTION
 Source: Aashlesha Bhosale

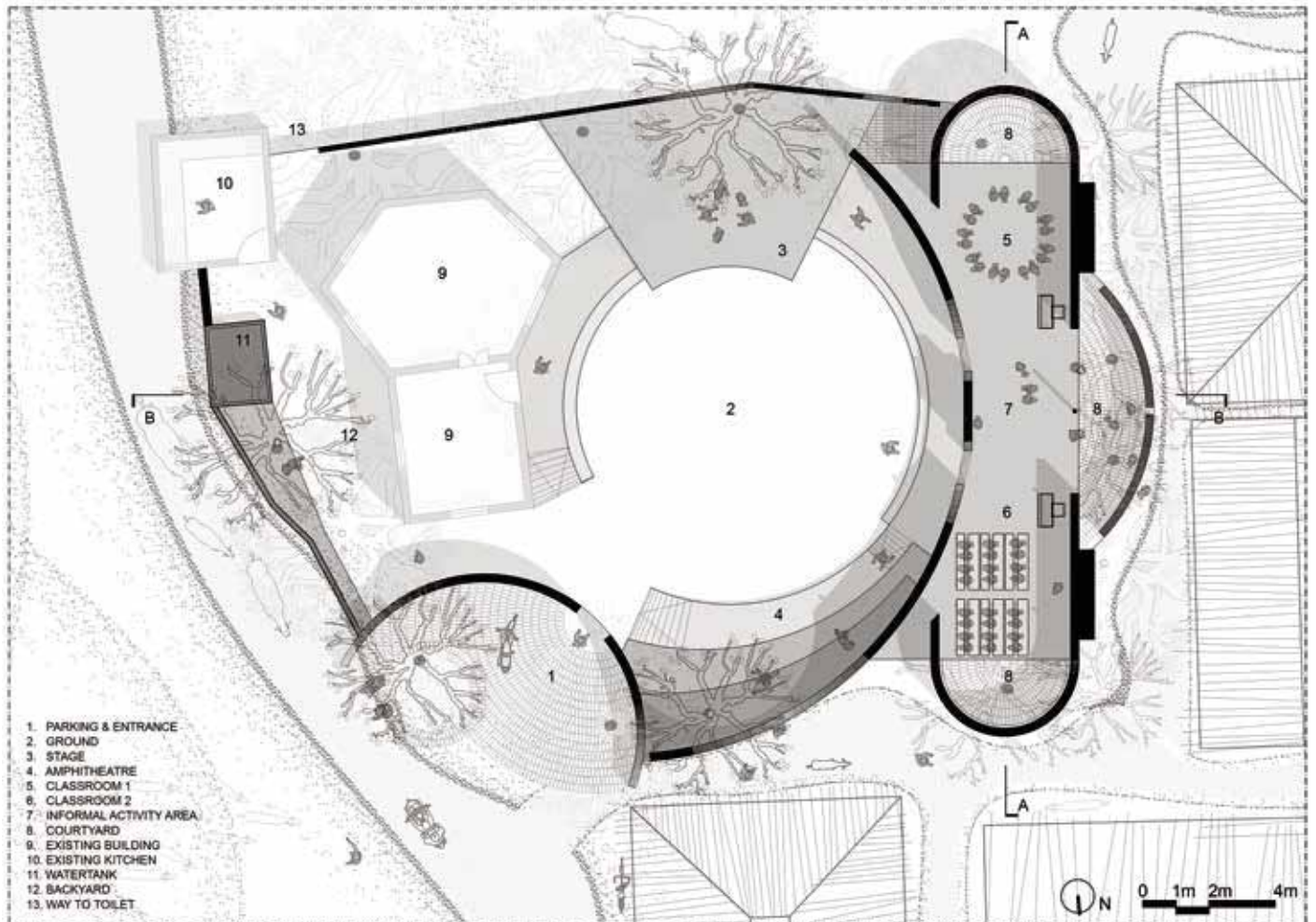


Figure 6: Plan of Community Canvas
 Source: Author



Figure 7: An unending canvas for writing
Source: Yash Kataria



Figure 8: Multipurpose infrastructure for villagers
Source: Aashlesha Bhosale



Figure 9: Behaviour of the opening
Source: By Gopala Krishna A - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=50905794>

architecture. The use of vernacular materials and the emergence of forms here is a response to the climate. However, instead of limiting oneself to this, the spatial arrangement was done by going beyond the material.

For example, as seen in figure 9, the double door we see in traditional Indian architecture represents human posture —we open the door the way we hug someone or welcome someone with a warm heart. The operation of the door and its appearance and the way it is to be used conveys the notion of how welcoming the space is. And this is exactly how human behaviour is manifested as a design element. From this, the learnings are how human activities, emotions, and comfort were at priority and then the available resources shaped the built. Now, technology is a priority and we have started building in isolation.

The observations, learnings, and intentions can be experienced through the process of ‘design while building’ (see figure 10). This experience can be given by physical models if used as a design tool. Model making is the tool through which we can cross-check the idea and experience the space. This process of crafting the space in physical form helps to understand our ideology and the chance of reconfiguration is left open. This may also lead to accidental surprises that are otherwise missing in a conventional process.

Every project of our studio is challenged with the search for its gene or the rooted values, its unsaid brief, and the timeless character for the same. Further, the user’s identity and aspirations for the future are approached, while the architecture’s physical identity emerges as the amalgamation of the entire thought process. The ultimate existence of architecture can go beyond function



Figure 10: Study model of Community Canvas project
Source: Author

and comfort. It can inspire people and though we always have limited time, the buildings with meaning can change the world and we should not settle for anything less.

Our practice is based on the inquiry of the root cause and bridging the gap through meaningful creation, which remains generic in nature but yet retains the essence of time, place, and user. In this way, the idea proposed becomes the inception of the architecture and its behaviour.



Ar. Pooja Khairnar (A26027) is an award-winning architect, designer and educator who works on the ideology of responding to projects contextually and believes that architecture has a responsibility and impacts every aspect of society. She is the founder and principal architect at PK_inCEPTION, a multidisciplinary design practice firm founded in 2014.
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Architectural Education

Raising the Bar with IIA

Ar. J. Manoharan

One of the chief objects of the Indian Institute of Architects (IIA), as stated in its memorandum of association at its registration in Mumbai in the year 1929 was “to encourage the study of architecture, to elevate the standard of architectural practice and by mutual support, to promote the interests of architects throughout India”.

In a recent national symposium on National Education Policy (NEP) in Architecture Education in Kochi, a workshop titled ‘Architecture Education- Raising the Bar’ was curated with the participation from architecture faculty. In this participatory workshop conducted for architectural academicians from across the country, the role of teachers, institutions, professional body (IIA) and regulatory body (CoA) in ‘raising the bar of architecture education’ was discussed and purposeful suggestions emerged. This article discusses the positive role of IIA in raising the bar of architecture education which could mean a grand leap in the quality of education and is the need of the hour.

More than 110 architecture institutions in India, approved by Council of Architecture, are Institutional Members of the IIA which is about 25 percent of the total number of institutions. To start with, IIA may interact with these institutions in raising the bar. The Council of Architecture is mandated to prescribe ‘the minimum standards in architectural education’ by the Architects Act of 1972. CoA had initially made a regulation for the same in the year 1983 for the purpose, which was updated after a long gap in 2020.

CoA has been regulating architecture education so far. With the NEP in force, the role of CoA will be that of Standard Setting Body, and the regulatory power as far as education is concerned shall be with new Higher Education Commission to be formed under NEP.

As the architecture undergraduate course is a professional one in which the graduate has to be industry-ready, around 25 percent of the teaching responsibility is attributed to visiting faculty who by and large are practicing architects. One out of ten semesters is devoted to practical training as an internship in an architect’s office. Special lectures are normally organised for every academic design exercise and live case studies are also common for each design. For all the above, IIA could be the facilitator through a well-structured, pertinent and feasible program organised through its grassroots, namely the chapters, centres and sub-centres along with national level initiatives as well.

National level Initiatives

In order to foster a vibrant and progressive academic environment, the IIA can facilitate and provide a platform for knowledge exchange, research and technical paper presentations, pedagogy innovations, recognition and rewarding excellence of institutes, teachers and students and other purposeful academic inputs through the following activities at the national level.

- ‘IIA National Education Convention’ which could be conducted once in every three years

Table 1: Salient Aspects of Standards for “Raising the Bar” and the role of IIA

(Source: Author)

	STANDARD	OPTIMUM	EXCELLENCE	IIA’s ROLE
1	Courses	UG, PG	UG, PG and Research Cell	Recognize excellence and give title of ‘IIA Excellent Institute’
2	Faculty Training	All faculty have undergone 3 or more training programs	All faculty have undergone 4 or more training programs Institution conducting regular training programs	IIA to curate /co-host faculty training programs through member institutions, chapters and centres
3	Student Feedback*	Consistent positive feedback	Consistent positive feedback	Assist with assessment methodology
4	Student Performance**	Consistently good	Consistently good/ Excellent	Assist with assessment through jury pool
5	Collaboration	Exchange with national institutes of excellence, joint studios, MOU	National and international institutional MOU, programs	Assist through collaboration with Arcasia, UIA, CAA
6	Academic conferences and workshops	Period national-level and state-level	Regular national and international level	Support/co-host conferences and workshops; facilitate resource persons, sponsors.
7	Institutional consultancy	Projects involving faculty and projects for social benefit	Project consultancy, urban design projects, academic-social responsibility (ASR) projects*** Advisory role to municipal bodies and development authorities.	Collaborate /support in ASR and advisory projects to municipal/ development authority projects through chapters and centres.
8	Research	Supporting doctoral research of faculty members. Technical papers by faculties.	Availing funds for applied and innovative research. Obtaining patents. Knowledge sharing with field. Publications	Identify funding and technical support from industry to research in institutions. Collaborate in knowledge sharing. Facilitate journal publications.
9	Mentoring	Assistance to new institutions	Mentoring few new and other institutions in need.	Help through professional visiting faculty pool, special lecture pool, project visit pool and internship pool.
10	Digital Technology	Training faculty and students in latest software	Up-to-date competence in digital, AI, 3D printing and such technologies	Facilitate training and help in software subscription.
11	Collaboration with national /international institutions	Collaboration with national institutions (MoU; conferences /workshops)	Collaboration with national and international institutions (MoU; conferences/ workshops; exchange programs)	Enabling/enhancing national and international collaboration; research networks Promoting knowledge/innovation/technology transfer from academia to industry
12	Social Outreach	Social outreach; solving built environment issues with design	Social outreach, solving built environment issues with research, design	Awareness events about architecture to the students of higher-secondary schools in collaboration with schools of Architecture. Interesting awareness events about architecture for general public.

*Student feedback is efficiently obtained and analysed by some institutions.

**Student performance in studio and theory subjects are being evaluated in continuous as well as end-test modes.

***Like Corporate Social Responsibility (CSR), Academic Social Responsibility (ASR) projects by institutions as part of CSR or independently.

- 'IIA Regional Education Conferences' which could be held once in three years in each region
- 'IIA Young Teachers' Festival' which could be celebrated once in every three years
- The IIA and educational institutions can collaborate to co-curate international academic conventions.

The IIA can play a strong role in bridging industry (building material) with research institutions and scholars for funding opportunities and conducting applied and academic research by cultivating its relationships with industry stakeholders.

With affiliations with international bodies such as ARCASIA, SAARCH and UIA, the IIA could enable deserving institutions in India to obtain international accreditation.

Chapter level Initiatives

In order to foster collaboration and knowledge exchange amongst educational institutions, the following initiatives can be undertaken at the chapter level by the IIA.

- Curating periodic academic events in association with architecture schools
- Co-hosting teacher training programs
- Creating a visiting expert pool as per subject
- Creating a pool of projects for visits/case studies
- Forming a pool of factories and showrooms for material study visits
- Forming a pool (local and outside the city) for internship
- Interface between architecture schools and architecture firms for job placements
- Awards for institutions, teachers and students could be regularly given for institutions in the state/chapter.
- Bridging industry (building material etc.) with research institutions/research scholars for funding of applied and academic research.
- Collaboration in institutional consultancy projects of architecture schools. The IIA and schools could collaborate in advisory or consultancy role to the local body or planning authority as well.
- In projects of 'Academic Social Responsibility' i.e. ASR (like Corporate Social Responsibility - CSR), IIA could collaborate with institutions with professional inputs as well as in curating sponsorship.

Centre and Sub-Centre level Initiatives

With the advantage of proximity and intimacy level, the IIA centre or sub-centre could work towards

making all registered architects in the area as IIA members and all the architecture institutions as member institutions of IIA. All the tasks enumerated for the chapter are applicable and doable for the centres and sub-centres as well. In fact, that is the advantage of a grass root professional body such as the IIA in true outreach and association of the profession and academia.

Raising the Bar

In the recently held teachers' symposia and programs, it had been expressed by speakers and participants that excellence in architectural education is to be achieved. While CoA has prescribed minimum standards in architectural education and monitoring compliance, stage-by-stage upgradation and achieving excellence should be the goal of all institutions by raising the bar from minimum to optimum and from optimum to excellence.

Way Forward

The IIA national body as well as its efficient chapters with their newly installed office bearers and council/ executive members have planned their tasks and are executing them earnestly. IIA at national and grass root levels could frame an academic policy synchronizing with the object of the Memorandum of Articles and suitably fine-tune their tasks and form task teams to accomplish the purposeful suggestions presented.

Conclusion

An important object of IIA as envisioned in the Memorandum of Articles of IIA is quality architectural education. Considering the current state of education and the implementation of the National Education Policy in the coming future, there exists a compelling necessity to elevate standards and attain a level of excellence. IIA stands as the ideal platform to undertake this responsibility, guiding educational institutions to meet this urgent demand and ensure their sustainability.



Ar. J Manoharan (F6521) is the former Chairman of IIA Tamil Nadu Chapter (2002-04) and the Convenor of IIA Natcon 2013 in Chennai. He was a member of the Council of Architecture (southern region) from 2015 to 2021. His architectural practice is over forty year old and has won many awards and recognitions. Currently, he is the Design Chair at Measi Academy of Architecture in Chennai.

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TODAY'S ARCHITECTS need to be POWERFUL EDUCATORS

By Dr. Roopal Deshpande

An intuitive conversation, Dr. Lakshmi Rao [LR] looks at Architecture Education through the lens of an educator and shares her insights with Dr. Roopal Deshpande [RD].

Dr. Lakshmi Rao heads the Post-Graduate Department of Architecture Education at Smt. Manoramabai Mundle College of Architecture Nagpur (SMMCA). She has been in the world of pedagogy for more than 45 years. With a doctoral degree in Education after her post-graduate degrees in Chemistry, Psychology and Journalism, she is part of the core group comprising Prof. Shirish A. Deshpande and Dr. Ujwala Chakradeo who were instrumental in starting the unique M.Arch. programme in Architecture Education in 2007, approved by the Council of Architecture and affiliated to RTM Nagpur University.

She, through this program, focuses on developing Higher Order Thinking Skills (HOTS) in aspiring teachers of architecture and believes in the philosophy that today's architecture education needs very sensitive teachers. She is currently working on meta cognitive skills in research





Teacher's Training Program at NIASA (now COA-TRC), 2013

Dr. Roopal Deshpande [RD]: You are a teacher and also a mentor to many teachers from different academic disciplines. What, according to you, should be the qualities of a teacher in today's academic context?

Dr. Lakshmi Rao [LR]: By the end of this decade, no academic stream will be a stand-alone one. With rich inputs from other academic areas, there will be a strong push towards blended areas. In this context, architecture has a very vital role to play. I believe that architecture is the most sensitive of all academic disciplines and this makes it imperative to sensitize the entire architectural fraternity to this fact. Today's architects have to take a responsible role to save the planet by donning an educator's mantle, whether for the client or the society at large. This will be possible only if schools of architecture get sensitive teachers who would facilitate the process of sensitization of students.

For this, I strongly feel that teachers should turn into facilitators.

RD: What are the challenges faced by young architecture teachers in the classroom and also during the design process?

LR: The main challenge is the inability of most students to think and feel deeply. They exist in a highly metallic world and a rapidly changing society. The values they inculcate from their early childhood years do not prepare them for managing their internal turmoil with increased external societal pressures. They are vulnerable while entering a very sensitive profession of architecture. Teachers need to channelise them into becoming individuals with a strong belief system. I have been a witness to the designs of students with a strong ideology in their undergraduate years and their designs have been outstanding.

To achieve this, teachers themselves need to question and mould their values and beliefs. If they are strong, their strength of being fair will percolate to their students. Our M. Arch. program at SMMCA focuses on these aspects while transacting the

delivery of content. Psychological principles are an important part of the curriculum.

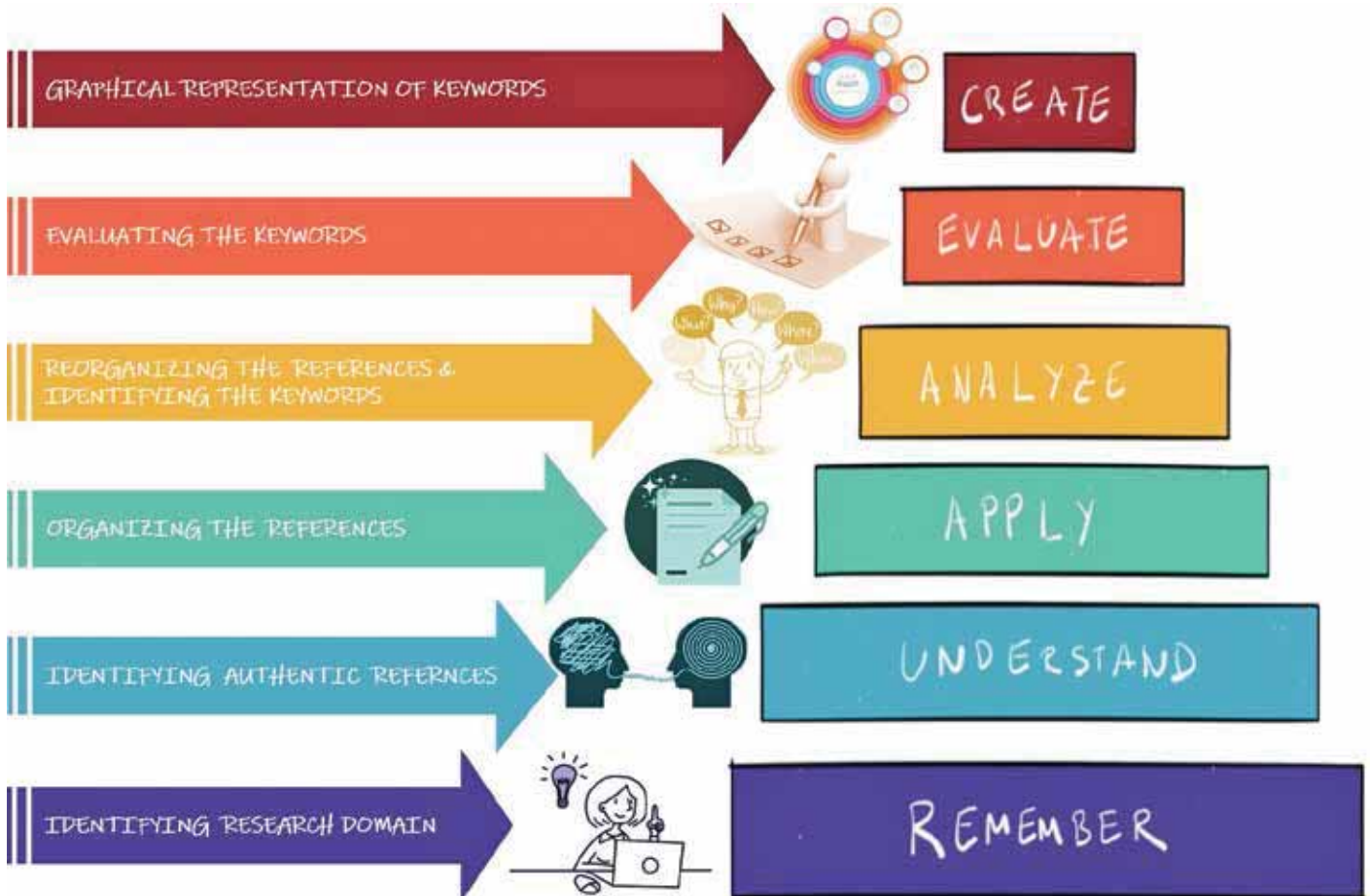
Young teachers also are in a dilemma when they enter the teaching profession. There is an inner battle between opting for teaching versus practice and they are vulnerable particularly when they are in the design studio. They are very adept at handling theory subjects but in the studio, where there is team teaching, ideologies and lack of expertise are areas of conflict that they face while working with senior teachers.

I always feel that observation is a very good tool to imbibe the expertise of the senior faculty. The senior mentor also needs to hand-hold them till the time they are ready to sail on their own. So, it is a lot of hard work for the young faculty. They realise sooner than later that teaching is not only delivering content. There is a lot of learning available particularly in the design studio.

RD: Can any curriculum design reduce the compartmentalization of knowledge? Do you have any examples to share?

LR: Curriculum design is a much sought-after area of education research. Through the years, educationists have been working on different models of curriculum design. In architecture curricula, the main area of concern for educationists is the large number of subjects coming from other allied disciplines. Blending them into a homogenous whole and then transacting it is often a difficult area for teachers.

The regulatory bodies across the world through their guidelines do give some freedom to institutions to develop their design philosophy. I have seen some institutions misuse this freedom. Some combine subjects according to convenience, some according to staff availability, and some at random. Faculty at institutions need to be educated on the broader



Pyramid for Bloom's Taxonomy of educational learning



M.Arch. students 2014-'16

aspects of the curriculum proposed by the regulating bodies. Else, we will end up adopting the theory of *laissez-faire* from sociology which believes that society will self-regulate itself.... 'survival of the fittest'.

During training programs, I have listened to a heterogeneous spectrum of opinions from teachers which includes criticizing the freedom given by the regulatory authority. With any curricular freedom comes responsibility. It also needs expertise on the part of the teacher to work on it. Only then can the compartmentalization of knowledge be reduced.

A suggestion which I feel like conveying is for schools to work extensively on developing their design philosophy: when the entire team of teachers and experts contribute to developing the philosophy, it instils a strong sense of ownership in the team. This philosophy acts as a guiding light in the integration of the subjects.

For example, if a school places a high premium on climate-responsiveness as a part of its philosophy, this along with other related subjects will play an important role in the evolution of designs.

RD: What are your views on research in architecture and the current trends of prevailing research?

LR: I have very strong views on this. Research areas in architecture cover a large gamut of subjects, each very different from the other. Research methods are often methods adopted from the area of social sciences along with some methods from scientific research. In addition, there is a constant tug between the qualitative and quantitative methods of conducting research.

The dilemma of whether architecture research is qualitative or quantitative often confuses researchers

in their journey. The insistence of some schools or universities on mandatorily including statistical components in the research analysis is a cause for concern. Statistics in any research is to validate the findings which then leads to generalisation of the findings. This does not happen in every architectural research. Some researchers are exploratory and do not need statistical methods to regulate their findings. This is an area where the entire fraternity of academicians needs to deliberate on.

Another area of concern is the necessity to fit research reports/ writings into a particular style. Though style manuals are good bases for standardised research writing, I believe that researchers in architecture need to be given the freedom to present their work as they wish to. Dr. Chakradeo and I have often discussed these issues when we teach research methodology to our students.

We have also felt that the final research defense for a doctoral work should be evaluated by a panel of inter-disciplinary experts instead of the current process of only one or two evaluating it.

I have observed that when methods from social sciences are used in research, the absence of a social scientist during the evaluation makes it tough for the researcher to defend his/ her methodology.

RD: What are your views on the increasing use of technology in delivering architectural solutions?

LR: Technology and AI are here to stay. What is worrying is the way they have hijacked the cognitive and creative abilities of professionals in architecture. Today we can deliver design solutions to our clients without even delving into our creative instincts. Our cognition is used only to make decisions on a plethora of options available, particularly in the area of materials to satisfy the needs of the client. Students today are a step ahead. Teachers need to be trained to help students enhance cognition, and persuade them to refrain from using AI extensively.

An issue discussed during Faculty Development Programmes is that the real world is different from the academic world of architecture. Yes, schools train students to be 'Ideal Architects' whereas in a world outside they have to become 'Real Architects'. Very often teachers bemoan the fact that they are not preparing the students for the real world. I agree to some extent but if schools of architecture have a strong value system, they are capable of equipping students to grapple with the real world.

RD: How can Faculty Development Programs equip teachers for effective transmission of knowledge?

LR: Continuing Education, without a doubt, is a must. COA is playing a stellar role in this area. From 2007 to 2014, SMMCA conducted a series of Faculty Development Programs (FDPs) for NIASA. While framing these programmes, we divided our content into the four areas of Education, Psychology, Creativity and Design. The enthusiastic response from participants led us to acquire an Intellectual Property Right (IPR) in the format of this programme. This also led us to curate training sessions for schools depending on the specific requirements suggested by the school.

Status quo is a term that does not apply to the world of architecture. As a highly evolving profession and a strong academic base, Industry-Academic interaction can be strengthened through FDPs.

All images courtesy: Authors



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Building Materials and their Impact on Human Behaviour

Use of Wood in Office Interiors in Bengaluru City

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Abstract

We, as human beings, have cognitive responses to our surroundings, so the materials used in a building can affect our mental and physical wellbeing. We spend 80–90% of our lives indoors, surrounded by various objects, colors, furniture, lighting, and soundscapes, that play a significant role on human psychology. The built environment we stay or work can directly affect our behavior or work patterns. By staying in close and confined concrete structures there can be a loss of connection between humans and the surroundings; though it provides security and protection we lose the connection with the nature around us. Our research mainly considered wood as a material that supports health and recovery, based on Dr Marjut Wallenius's observations through various surveys. The various textures and different wooden tones present in wood can affect human emotions in providing a more suitable and comfortable work environment. Using wood in offices can even reduce stress levels, gives warmth and comfort which in turn increases work productivity. By conducting various surveys and through physical observations we found that using wood in offices can dramatically reduce stress levels and increases productivity at all levels. The objective of this research is twofold, first how building materials impact human behavior and the second is the use of timber in office spaces and its end results.

Keywords: Human behavior, material, wood, office interior, productivity, partitions, and space.

1. Introduction

1.1. Topic importance and Background

"We shape our buildings, thereafter they shape us."
Winston Churchill, 1943 (UK Parliament, n.d.)

Building materials impact human behavior; we often respond to our surroundings through what we see or feel and can affect the way we function. This research paper encapsulates the importance and impact of wood material in office interior spaces and how it affects behavioral patterns and productivity in offices today. With increasing stress levels and work, it is important to create a healthy workspace environment. Using wood also creates a connection between nature and the built environment. Wood has several characteristics like moisture buffering of air, antibacterial effects and acoustical features, altering humidity fluctuations of indoor air and creates a positive feeling to its users or inhabitants. (Alapeti, Mikkola, Pasanen, & Salonen, 2020). It is also a natural, renewable, low carbon and recyclable material. Timber has been used as an appropriate

material in forming the aesthetics of building design of workplace offices. Hence, it has become an alternative for many prominent architecture studies and is ready to be implemented in the office spaces. Though it being a long-lasting material, it has not attained its due prominence till this time. It is well-known that wood is a flexible material in both, furniture and walls, not limited to only finishes and parquet flooring. Due to its versatile nature, it is integrated in both, urban and rural areas including customization aspects and elements. Just like the prefabricated and modular structures made in shortest period, offices can be easily modelled through removable, expandable, movable or reusable wooden products. The inherent insulating characteristics allow thermal comfort with huge amount of energy saving. Furthermore, wood can act as composite material with glass allowing light to penetrate through space.

Wood always adds a stylish look to the office spaces, and it is highly possible to protect the environment by using authenticated nature-friendly products by using it in the given spaces. There are multiple advantages. Foremost, the fact that wood is a naturally available material and has existed since ages, it is more popular than other materials such as plastic steel and other adhesives. Wood also holds a natural character and unique style which holds its presence in interior design, during modern and contemporary eras, where these trends are not restricted to homes only, but they are also implemented in the workplace such as offices, industries and public buildings. The main aim is to create warm and enlightening ambiances that serve to reduce monotony and instill the zeal to go to work with vision, serenity, and divinity etc.,.

1.2 Aims and objectives:

The aim of this study is to find if building materials can impact human behavior, specifically use of timber in office interior spaces. This is with the objective of determining how wooden interior spaces in offices can make a notable change in a person's behavior and productivity and can aid in creating a healthy workspace environment.

2. Literature Review

To understand the human brain's responsive mechanisms towards architecture and its built space environment, major characteristics must be understood in terms of human behavioral, emotional, intellectual experiences and feels in the built environment. Understanding these major aspects enables us to think, move, remember, learn, and feel about the sensorial conditions that exist in



Fig. 1: Partition walls
(Source: https://in.pinterest.com/pin/6x6-partition-wooden-officepartition-by-6x6--45950858690411669/_03/07/23)



Fig. 2: Stud wall
(Source: https://www.britaniaglass.co.uk/5-different-types-of-office-partitions/_03/07/23)



Fig. 3: Trussed Partitions
(Source: https://www.archdaily.com/802313/the-inverted-truss-b-plus-p-architects_03/07/23)



Fig. 4: Trussed Partitions
(Source: https://in.pinterest.com/pin/679973243765977919/_03/07/23)



Fig. 5: Wood flooring
(Source: https://www.bvg.co.in/prefer-wood-flooring-in-your-office/_03/07/23)



Fig. 6: Wooden ceiling-1
(Source: https://www.anticolonial.com/en/naturelovers/the-use-of-wood-in-office-design/_03/07/23)



Fig 7: Wooden ceiling-2
(Source:https://www.anticcolonial.com/en/naturelovers/the-use-of-wood-in-office-design/_03/07/23)



Fig. 8: Wooden furniture
(Source:https://www.wired.com/2014/12/airbnb-invents-call-center-isnt-hell-work/_03/07/23)



Fig. 9: Wooden decorative elements
(Source:https://www.wired.com/2014/12/airbnb-invents-call-center-isnt-hell-work/_03/07/23)

built environment which is created around us. As per research on behavioral study conducted by Dr Marjut Wallenius at the University of Tampere (2016), Ellard & Hanna (2021) and Shen et. al. (2019) they have found that by using wood as a material in 45% of spaces in interiors brings drastic changes in blood pressure, brain functioning, and enormous increase in pulse rate. The diversified textures present in the wood grains, and its tones, textures can influence the emotions and productivity levels accordingly, which helps in reducing stress levels. As per research

conducted by the University of Canberra, it also suggests that the natural temperateness and calmness of wood as a material has a thoughtful impact on physical wellbeing, from regulating blood pressure and heart rate, to reducing stress which are very much essential in a healthy and sportive workplace. These health benefits can be availed by everyone through all stages of an organization; helping to encourage more positive and social collaborations with the co-workers, colleagues and increased efficiency, to combat tension and malingering.

A study by Assoc. Professor Jacki Schirmer (Wood Makes More Workable Workplaces, n.d.) from Canberra University, explains the profound benefits on staff who work in a wooden setup than conventional cubes and was found that people who are working in spaces with high amounts of wooden surfaces and finishes have a much higher sense of comfort and yield compared to others, they're also more likely tend to find their workplaces comfortable.

2.1 Market form of wood

Wood can be effectively used in office interiors in Bengaluru to create a warm and inviting atmosphere while maintaining a professional and contemporary look. Wood is an adaptable and prominent material used in interior design for its natural and physical characteristics. It gives the place a sense of warmth, texture, and coziness. The following are diverse ways wood can be incorporated in the office interiors.

i) Partition walls:

Wood can be used as standard partition (Fig. 1) and trussed partition (Fig. 3) in office spaces, which are composed of vertical stud members (Fig. 2) and horizontal sill members that act as a framework supported by ground underneath or sidewalls in a rigid arrangement of wooden members. These can then be plastered or lined with boards on either side with a Glulam where glued and laminated wood and solid wood is glued to large sections. Another type is a Trussed partition, which is designed on the principles of truss having lightweight and easy to construct mechanisms, but they are highly affected with insects, rust, rot and decay that requires maintenance at regular intervals.

ii) Wall Paneling:

Wooden wall paneling can be used to create accent walls or cover entire sections of walls. It adds texture and sophistication to the office environment (Fig. 4), making it feel more inviting and comfortable. Wooden partition walls can be used to divide office areas or create separate work zones. These partitions can provide privacy while maintaining an open and airy feel in the office. wooden paneling or cladding

on walls can create a rustic or contemporary look, which creates visual appeal. Apart from adding visual appeal and depth to a space, wall panels (wood, PVC, vinyl, or brick veneer) also make rooms insulated both thermally and acoustically to keep the place comfortable.

iii) Flooring:

Wood flooring can be installed in office spaces to add a touch of elegance and warmth. Hardwood or engineered wood flooring can provide a durable and visually appealing surface that complements various interior styles. Hardwood engineered wood and laminate flooring (Fig. 5) is a classic choice that adds elegance and warmth to a room and has its own unique characteristics and prices. Within the wide selection of wooden floor types, we can easily find perfect grain and shade to complete the interiors within the given budget and amount of time. even though It's a cumbersome exercise to know the relevant option and quality of material for the given space but we can achieve long-lasting and durability.

iv) Ceilings:

Wooden ceilings can add warmth and character to a space. Exposed wooden beams or wooden ceiling panels can add character and visual interest to the office space. Wood ceilings create a warm and cozy ambiance (Fig. 6) while adding a unique architectural element. Visible wooden beams or a wooden ceiling (Fig. 7) with intricate designs can create a cozy and inviting atmosphere. Incorporating wooden desks and workstations can add a natural and organic element to the office. More prominently, wooden ceilings are suitable for cold climatic conditions, by default it is not an ideal choice for Indian office spaces as it requires a high amount of maintenance for it to be long lasting and durable.

v) Furniture and seating:

Wood desks can be designed on modern lines and functional features to suit the needs of a contemporary workspace. Wooden furniture such as tables, chairs, and cabinets (Fig. 8), which are crafted in a range of styles and can be varnished, or paint coated to match different office interiors. Wood is commonly used for kitchen and bathroom cabinets due to its durability and aesthetic appeal. Wide varieties of wood had been chosen to achieve a desired appearance, from ancient to current elegant styles. Incorporating wooden furniture and seating options, such as chairs, tables, and lounge areas, can enhance the overall aesthetic of the office. Wood furniture can be customized to match the desired style and provide a comfortable and inviting environment for employees and visitors.



Fig. 10: Wooden stair case

(Source: https://www.officelovin.com/2015/05/inside-zimmerman-advertisings-fort-lauderdale-cool-office/_03/07/23)

vi) Decorative Elements:

In terms of decorative elements, wood is commonly used as wall art, shelves, frames, and sculptures which enhances the natural environment of a space and in turn creates an eye-catching entity. Wooden decorative elements, such as wall art, sculptures, or planters (Fig. 9) can be strategically placed throughout the office to add visual interest and create a connection with nature. These elements can contribute to a positive and inspiring work environment.

vii) Staircases:

Wooden staircases are a most popular option due to their longevity and flexibility can be designed in distinctive styles, including floating stairs, traditional straight stairs, or spiral staircases, and acts as a complementary (Fig. 10) to overall design. Hardwood is a famous and prominent material for stair parts due to its stringent aspects and luxurious appearance. It is very easy to clean and requires less maintenance, being one of the good choices for stair treads, risers and balustrades compare to other market driven materials.

viii) Accents and accessories:

Incorporating wooden accents and accessories, such as bowls, vases, candle holders, or picture frames, can add value within the given space. These minute details (Fig. 11) can enhance the overall design and create a cohesive appearance. Whether you have your own desk or not, desk accessories are key to creating a work environment that really works, increasing productivity and ensuring that workplace wellbeing is constantly improving.

ix) Cabinetry and storage:

Wood can be used for office cabinetry, shelves, and storage units. Wooden cabinets and shelving provide a timeless and elegant look while offering practical storage solutions for files, supplies, and equipment. When using wood, it's important to consider the overall design concept, balance the use of unconventional materials (Fig. 12), and choose the appropriate type of wood and finish to achieve the desired aesthetic. When using wood in office interiors, it is essential to consider the local climate and humidity levels. Proper selection of wood species and finishes is necessary to ensure durability and minimize maintenance requirements. Additionally, incorporating wood with other materials, such as glass, metal, or concrete, can create a balanced and modern aesthetic in the office space which preserves their beauty and longevity.

In this paper we have found the various characteristics and benefits of wooden office interior and how it is a viable material to be chosen for interiors of office spaces in Bangalore.

3. Methodology

Tools of research-online questionnaires, offline interviews, online case study analysis.

4. Findings

From the online questionnaires circulated, more than 94.7% (Fig. 13) of people working in an office feel that the interiors in their office affect their mood when given options with the below factors like color, vision, aesthetics, and function (Fig. 14). The color tones and the aesthetics of wooden interiors are found to be the most noticeable features by the employees compared to vision and function in a wooden office interior.

When given an option for choice of materials (Table 1) in a wooden interior with respect to furniture, space, ceiling, flooring with common materials used in offices in Bangalore like steel and glass, the most preferred option was wood in all aspects. An overall of 92.3% of people chose wood as an ideal interior

Table 1: Comparison of materials: wood, steel and glass.

(Source: Survey by Authors)

Interior	Wood	Steel and glass	Others
Furniture	84.2%	0%	15.8%
Space	89.5%	10.5%	0%
Ceiling	89.5%	10.5%	0%
Flooring	84.2%	15.8%	0%

material for office spaces. The above findings demonstrate the effect of the physical qualities (Fig. 15) of concentration of wood use, wood coverage and how change of wooden surfaces have visual and psychological responses to the surroundings.



Fig. 11: Wooden accents
(Source: https://www.pinterest.com/pin/297448750398570339/_03/07/23)



Fig. 12: Wooden cabinet
(Source: https://www.focusinteriors.com.pk/product/cre-002/_03/07/23)

1. Do the interiors around you in your office impact on your mood ?
19 responses

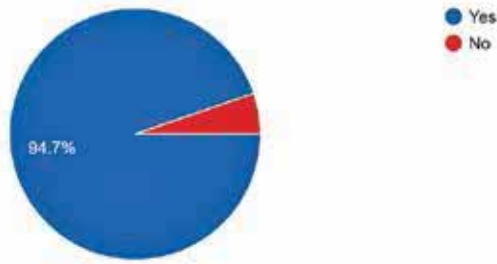


Fig. 13: Survey for mood impact
(Source: Authors)

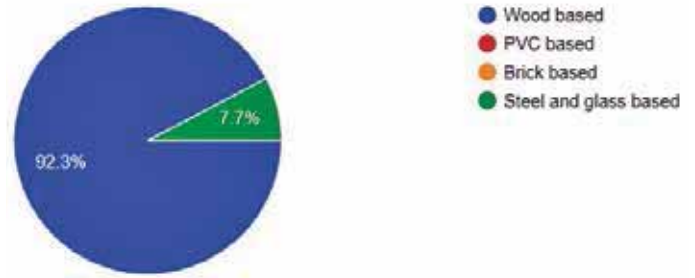


Fig. 15: Survey for material preferences
(Source: Authors)

5. Results and Analysis

From the data obtained through online surveys and through online case studies, we can tell that building materials does have an impact on human behavior and using wood in office interiors there are observable physiologically positive responses to wood and its natural effects. Majority of working people like to have an office with wooden interiors, the visual and psychological effects of wood that helps in alleviating stress, maintain blood pressure, increases the brain activity, and maintains a healthy workspace environment. The cognitive responses to wood in an office space benefit in having a calm, stress free environment for the user and increases the overall human productivity which is a main key feature in an office. The factors like color, visual aesthetics, and characteristics of wood in general, also the natural feature of wood, its response as a material in controlling air quality, its diversity of wood grains manipulate the human emotions and create a

good workspace that helps in increasing the overall productivity and reduce stress levels. For some, wood as a material is physically, psychologically, and functionally the best material to be used in office interiors.

6. Conclusion & Recommendations

The built environment we work or live in does have an impact on the behavior and the materials used in a space and the physical, psychological, and functional use of it helps in creating a productive work environment. Wood is a highly recommended material to be chosen in an office interior space, the usage of wood promotes analogous benefits similar to spending time with natural environment, and in turn helps to boost and promote work satisfaction as well as the productivity at all levels at any given point of time and improves concentration and optimism amongst diversified employees. As architects we shape the buildings and the surroundings around

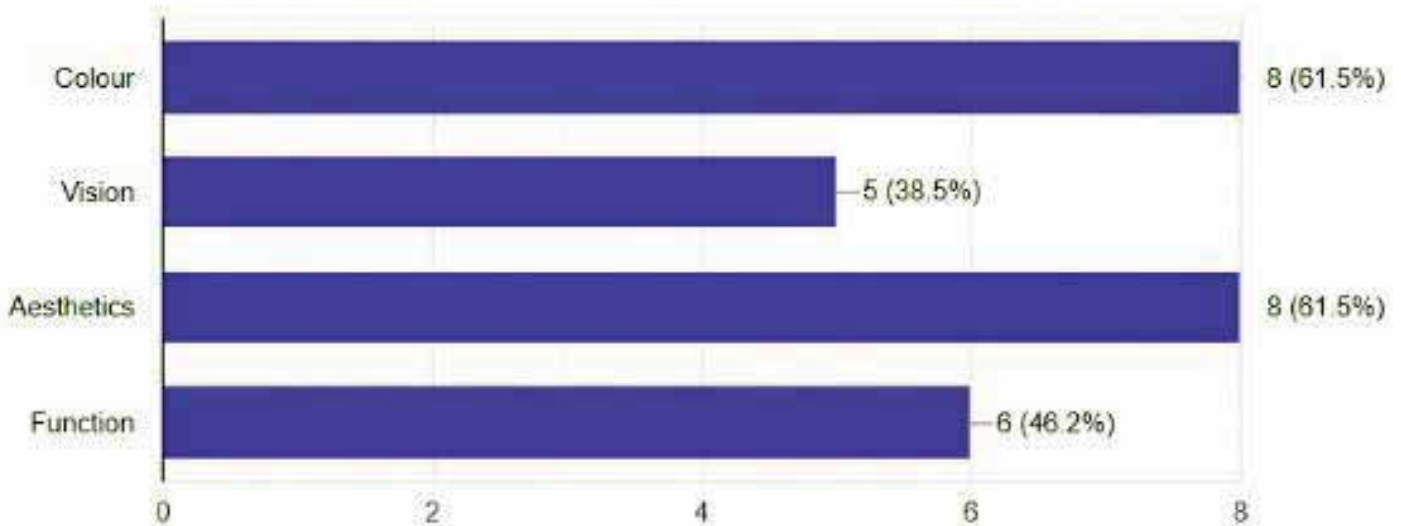


Fig. 14: Survey for visual, thermal and aesthetic comfort
(Source: Authors)

us to make it comfortable for all the habitual needs. Our happiness, abilities, rejoinders, competence all are formed by the spaces we work, eat, sleep, and enjoy within it and the different materials we choose in different spaces helps us to bring character to our spaces. Our wellbeing and productivity highly depend on the spaces we work in, so without choosing the right material for the right space we cannot bring the required character, work atmosphere which intern affects the productivity. Therefore, choosing the right material plays a significant role in having a healthy work environment especially in the city like Bengaluru that showcases cosmopolitan characteristics.

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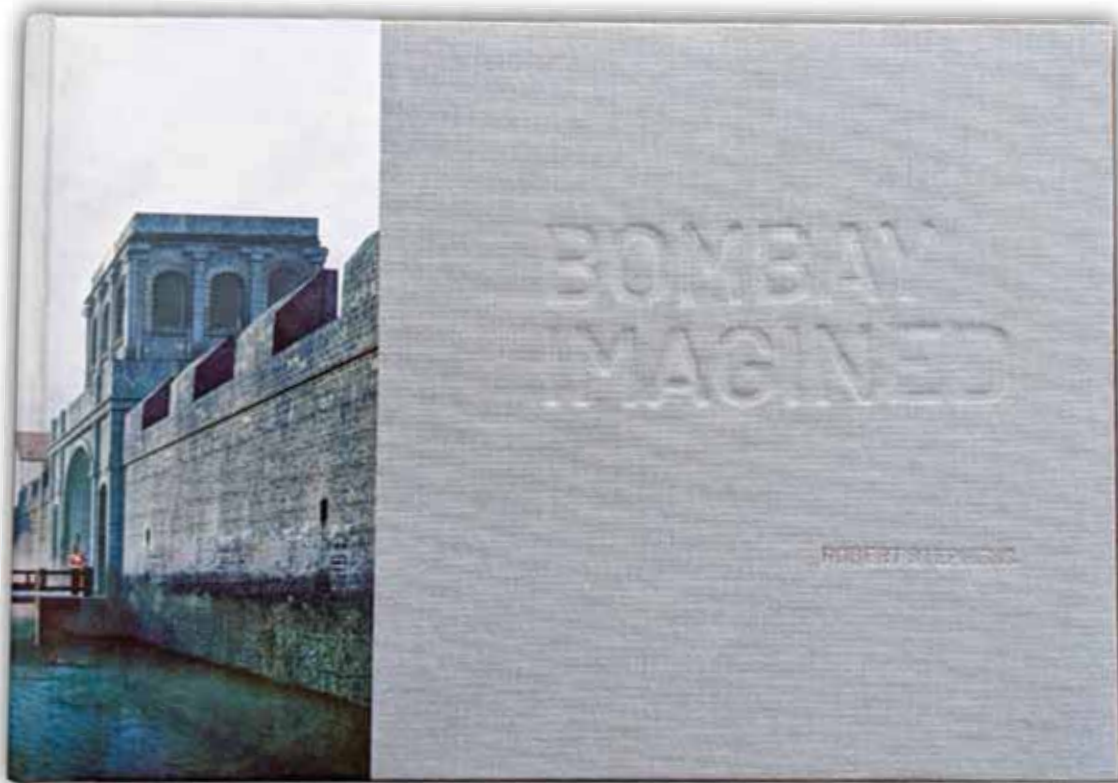


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Bombay Imagined

An Illustrated History of the Unbuilt City

Author: Ar. Robert Stephens
Reviewer: Ar. Zenia Vandrewala



Bombay Imagined: book cover

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No of pages: 460
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"The world is full of unused plans"
Albert Mayer and N.V. Modak, 1948

The statement by Mayer and Modak that opens the book *Bombay Imagined* is an appropriate introduction to the author's exploration of 200 unrealised ideas that date from 1670 to 2020. Several stories of the past are evidenced by the built fabric of the city or the 'Built Bombay'. In this mammoth 450-page volume, Robert Stephens unravels an illustrated history of the 'Unbuilt Bombay'. Many illustrated proposals are closely tied to the city's timeline, offering glimpses of alternate histories and possibilities: A Marble Gateway, Mahalaxmi Lake, a car-free Bombay, or the City of the Dead. This extensively researched, meticulously structured, visually stunning book offers a multi-layered reading experience of alternate realities that are firmly grounded in history.

The 200 unbuilt proposals are organised chronologically and have been assigned color-coded tabs indicating the project category, such as housing, sanitation, recreation, etc. The reader is provided with the structure and space to interpret the given information. The sequential arrangement of responses reveals the shift in points of concern regarding various urban issues over different decades. For example, one may observe a decrease in emphasis on defence proposals, an increase in reclamation efforts, and a subsequent focus on urban planning and transportation schemes over a specific period. Some of the compiled proposals raise recurring questions about issues such as sanitation, car-centric versus pedestrian-centric design, and the lack of recreational spaces.

The book has a thoughtfully developed Places Index embedded in each project. It showcases various design proposals for specific landmark sites. For example, the crescent site over which the Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (formerly Prince of Wales) museum now stands could have been used for Bombay's first artificially air-conditioned office building or a cathedral for the English churchmen. The consecutive pages also reveal the designs of other unsuccessful competition entries for the museum by James Gibson and James Miller, as well as Wittet's earlier designs and the extension masterplan. Over 70 years and 150 pages later, the book reveals Charles Correa's proposed Museum of Modern Art within the Crescent site.

By maintaining a language that is free from biases, the author enables readers to develop their own opinions. The reader, through their connections with Bombay as a citizen, visitor, or just a viewer, could

be caught in an internal debate about whether the project would have had a positive or negative impact on the city. The speculation about the Bombay (now Brihanmumbai) Municipal Corporation's 1962 failed proposal for a circular multi-storey parking lot at Horniman Circle may seem like a fortunate escape for many readers. Those who struggle to find parking every day might consider it an appealing proposition. Some proposals depict alternative idyllic scenarios, such as the 1948 Express Highway Green Belts by Albert Meyer and N.V. Modak. If implemented, modern Mumbai would have hosted over 50 miles of interconnected urban park trails, stretching from Bandra to Borivali and Sion to Thane. Due to its capacity for personal engagement with the reader, the book has the potential to appeal to a wide range of audiences and accommodate different paces of reading. A non-reader could gain a cursory understanding by seeing the illustrations and maps. A history buff or an academic would engage in a thorough reading, delving into the provided references.

The book brings to the forefront many of the city's visionaries, such as William Walker, Arthur Crawford, Russell Aitken, Claude Batley, George Wittet, Jamshetji Tata, Albert Mayer, N. V. Modak, Charles Correa, and I. M. Kadri. Despite the proposals being shelved, their relentless efforts and contributions to the city are represented page after page. The book also reveals missed opportunities for the city to host buildings by world-renowned designers, such as Le Corbusier's Air India tower, Buckminster Fuller's Santacruz Terminal and Patrick Geddes' Bandra Gateway. "Can you imagine if Corbusier, at the height of his power, had designed the building?" Charles Correa was quoted. "It would have been an architectural gesture that would have changed our lives." The book has become a visual compilation of the lost ideas for the city, contributed not only by architects, engineers, planners, and civic bodies, but also by authors who envisioned the city's future through their writings.

The author has diligently researched and collected a significant amount of primary data, making this book a valuable reference for anyone studying the city's history. However, the research has been presented in a simple, clear and engaging narrative, making it a very enjoyable read. Each proposal has been represented by drawings from the archives or specifically illustrated by the author's team, giving form to the description based on the acquired data. A special note on the book design, which achieves visual clarity and allows for multiple ways of reading it, whether by following a timeline, category, or place.

The book leaves the reader in the year 2020 with the unfulfilled proposal for coastal road realignment by Abraham John Architects. Note that at the time of reading, the construction of the disruptive coastal road may still be ongoing or already completed for future readers. The book ends without a concluding chapter, only featuring a quote by Patrick Geddes: *There still remains for delivery my report on Bombay.* The deliberate absence of a conclusion calls for continuity in the narrative.

Author



Ar. Robert Stephens has graduated from Virginia Tech (2007). Originally from Summerville, South Carolina, he now lives in Mumbai where he worked with RMA Architects until 2023. In 2016 he founded Urbs Indis, a studio that narrates lesser-known civic histories of urban India. His work has been exhibited in Mumbai, Ahmedabad, Hyderabad, Chennai and Edinburgh, and has appeared in publications such as The Guardian, DOMUS India and Scroll.in.

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Reviewer



Ar. Zenia Vandrewala (A26762) is a Landscape Architect with around 8 years of experience in practice, academics and research in Mumbai and Kochi. She is the founding partner at MDS Kochi and is leading the landscape division- ZVLA. Her current practice and research focuses on an ecological approach to the built environment, especially in urban areas. As part of KMEA College of Architecture in Kochi, she is heading the Publication Cell and co-leading the Foundation Studio.

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Asian Congress of Architects (ACA 20)

Boracay, Philippines

The ARCASIA 20th Asian Congress of Architects took place from September 17–23, 2023, in Boracay Island, Philippines. Organised by the United Architects of the Philippines, the event brings to focus the Asian response to transformative change introduced by the United Nations Development Programme, which aims “to build a new culture: one that embraces complexity, actively manages risk, continually adapts, and seeks to learn alongside delivering results” amid the COVID-19 pandemic.

The ARCASIA Council consists of the presidents of the National Institutes of Architects in Asia.

The organisation itself serves as an extension of each member institute’s regional programme and relations. Annual meetings are held to deliberate on and give collective direction and representation to matters that affect the architectural profession in the Asian region.

Objectives

- To unite on a democratic basis and to foster friendly, intellectual, artistic, educational, and scientific ties among the National Institutes of Architects in the Asian Region
- To foster and maintain professional contacts, mutual cooperation, and assistance among member institutes.
- To represent the architectural institutes of member countries at the inter-regional level. To promote the recognition of the architect’s role in society.
- To promote the development and education of architects to serve society.

- To promote research and technical advancement in the field of the built environment.
- To arrange for the publication of any matter likely to promote knowledge of work, theory, law, and practice relating to the building industry and professionals allied thereto.
- To provide a forum for member institutes, government agencies, and allied professional organisations to discuss problems of common interest and seek solutions to these problems that would contribute to the advancement of the profession and the development of architecture relevant to the culture and aspirations of the Asian people.
- To establish direct linkages between ARCASIA and other regional organisations, government agencies of the Asian region, agencies of the United Nations Organisation, inter-regional associations, and transnational corporations for interchanges of technical and scientific matters between countries and regional organisations; and to acquire assistance in promoting the objectives of ARCASIA as representing the Regional Council for Asian architects.

About the Venue: Boracay, Philippines

Boracay is a tropical island surrounded by stunning white sand beaches and clear blue waters. It is located about an hour’s flight from Cebu or Manila, just off the larger Philippine island of Panay. For beach connoisseurs, Boracay competes with the best beaches in more popular destinations such as the Caribbean and the South Pacific, as well as neighbouring Thailand, Malaysia, and Indonesia.

Visiting tourists appreciate water sports and activities such as sailing, windsurfing, snorkelling, diving, and jet skiing. The fun in Boracay doesn't end when the sun sets. The nightlife pulsates with many bars and restaurants serving food, drink, and fun until the wee hours of dawn. Boracay is a small island in the central Philippines. It's known for its resorts and beaches. Along the west coast, White Beach is backed by palm trees, bars, and restaurants. On the east coast, strong winds make Bulabog Beach a hub for water sports.

Congress Information

Theme: Paghahabi: Weaving a Future-Ready Environment

The Asian Congress of Architects is a major regional congress held every two years that takes the form of a large international congress to foster intellectual exchange and strategic discussion on regional challenges, initiatives, and development amongst hundreds of architects. ACA 20 as proposed by the United Architects of the Philippines highlights the need for a world that transcends into the future as we enter a better normal. It brings to focus the Asian response to transformative change introduced by the United Nations Development Programme, which aims "to build a new culture: one that embraces complexity, actively manages risk, continually adapts, and seeks to learn alongside delivering results" amid the COVID-19 pandemic. The word "weaving" conjures up myriad images, symbols, and ideas.

Day 1 (Monday, September 18, 2023):

This day was dedicated to office-bearer's meetings and committee meetings.

The Committee on Architecture Education (ACAE), Committee on Professional Practice (ACPP), Committee on Social Responsibility (ACSR), Committee on Green and Sustainable Architecture (ACGSA), Committee on Young Architects (ACYA), and Fellowship meetings were held on this day. Two of them, ACGSA and ACPP, were chaired by Ar Tushar Sogani and Ar. Mukul Goyal, respectively.

Report on the ACGSA committee meeting

The ACGSA Committee meeting was held in Boracay, Philippines, on September 18, 2023. The theme for this time was MISSION: NET ZERO CARBON EMISSION.

The committee meeting started with the introduction of all the delegates and a group photo session. This meeting was attended by chairman Ar Tushar Sogani, Imm. past chairperson Ar. Acharawan Chutarat, chairperson elect Ar Alice Leong, and past chairman Ar Debatosh Sahu and Ar Qazi Arif, along with member representatives from AAM-Macau, HKIA-Hongkong, JIA-Japan, KIRA-Korea, ASA-Thailand, IAI-Indonesia, PAM-Malaysia, SIA-Singapore, UAP-Philippines, VAA-Vietnam, IIA-India, SLIA-Sri Lanka, SONA-Nepal, and IAB-Bangladesh who were physically present.

The chairman addressed the gathering with his opening remarks and minutes of the last meeting held in Kathmandu. Followed by the addresses of the immediate past chair, deputy chair, and past chairs. Further, all the member country representatives gave a 7-minute presentation on the theme and a 3-minute country report. This was followed by reports from zonal representatives of Zones A, B, and C.



Arcasia Committee on Green and Sustainable Architecture (ACGSA) Committee Meeting 2023

The award programme, Digital Display of Green AsiARCH 04, was launched by the chairman along with the newsletter of ACGSA. Ar Abu Sayeed Ahmed (President, ARCASIA) gave a special address and blessings to the entire committee. Concluding remarks with a goodbye note were given by the chairman to end the session.



Release of the ACGSA newsletter



Digital display at Green AsiARCH

Committee of Professional Practice (ACPP)



Committee meeting of ACPP

Report on the ACPP committee meeting

The ARCASIA Committee on Professional Practice is one of the most valuable constituents of ARCASIA. After Ar. Mukul Goyal called the meeting to order, he introduced the theme:

- Parameters for cross-border internships and jobs
- Continuing Professional Development (CPD) Guidelines

A record number of 23 representatives from member countries, apart from 8 guests (including the President, 2 past presidents, 4 former ACPP chairpersons, and the UAP leaders), participated and introduced themselves.

The issue of cross-border internships was presented by Ar. Sohail Saeed of IAP from Zone 1, Ar. Thirilogachandran of MAP from Zone 2, and Ar. Gibson Rhie of KIRA from Zone 3.

All the participants recognised the importance of cross-border internships with the following recommendations:

- ACPP representatives to identify architectural firms and universities willing to participate in this programme.
- Define the period of the internship and allow hybrid modes, including physical and online sessions, to lower the cost and logistic issues.
- Internships will be for 4th and 5th year students.
- A payment or stipend to a student should be a prerogative of architectural firm as per the employment rules of respective countries. ACPP will not get into the financial matters. ACPP will collaborate with ACYA and ACAE for foreign internships in Asia.
- Only those architectural firms registered with their respective country institutes (registered with ARCASIA) would be considered.
- ACPP/ACAE to prepare a set of internship guidelines.
- ACPP would recommend extra CPD points for those architects sponsoring foreign interns.

CPD Guidelines for ARCASIA

In the second half of the meeting, Ar Dilumini gave a presentation on the CPD programme, considering several CPD programmes across countries in ARCASIA. The participants generally consented to moving ahead with the document as there will be a provision for periodic modification wherever required. Ar Dilumini will finalise the document, and IAB has volunteered to publish it with the target of accomplishing this by November 2023.

All the participants passionately raised their concerns and were duly encouraged by chairman Ar. Mukul Goyal. The meeting ended with the distribution of mementos and certificates.



The IIA President was welcomed on the day of the award function.

There were other committee meetings also held on the day, followed by the Awards for Architecture 2023. **Ar. Kavita Sashtri and Ar. Sanjay Puri** received special recognition for their projects.

Day 2 (Tuesday, September 19, 2023):

The day started with the formal opening of the ACA 20 exhibit and technical sessions. There were three sessions with parallel programmes. In session 1, the technical session was moderated by **Ar. Debatosh Sahu**. The presenters were:

Weaving Social Sustainability into Solution-Making: Insights from the MOVEUP (Alternative Temporary Shelter Strategy) by **Geomilie S. Tumamao-Guittap and Jennifer N. Furigay (Philippines)**,

The process of community-led development at Gabtoli City Colony: A Framework for Community Engagement and Social Resilience by **Humayra Ayan, Mahmuda Alam, and Md. Mashuk Ul Alam (Bangladesh)**

The spatial transition of a public space during a social movement with reference to 'Gota-Go-Gama' in Sri Lanka in 2022 by **Sachith Vithanage (Sri Lanka)**



Technical session, moderated by Ar. Debatosh Sahu

Day 3 (Wednesday, September 20, 2023):

43rd ARCASIA Council Meeting

The day was reserved for the first day of the council meetings with the regular proceedings. The President IIA, **Ar. Vilas Avachat**, presented the country report in front of the council, and it was well received.



Country report by President IIA, Ar. Vilas Avachat

Day 4 (Thursday, September 21, 2023):

43rd ARCASIA Council Meeting and Election

After the regular proceedings of the council meeting, the election was conducted. The following members were elected:

- Zone A vice president: **Ar. Devendra Nath Gangal** from Sona, Nepal
- Zone B vice president: **Ar. Saykham** from ALACE, Lao
- Zone C vice president: **Ar. Cheung Kong Yeung Thomas** from HKIA, Hong Kong
- Fellowship chair: **Ar. Debatosh Sahu** from IIA, India

It was also decided in the meeting that the Asian Congress of Architects 21 will be held in **Incheon, South Korea**. They were the only bidders. It was also decided in the meeting that the ARCASIA forum would be held in **Sri Lanka** next year.

Day 5 (Friday, September 22, 2023):

Friendship games, closing ceremony, and Friendship Night

On the final day, a collection of friendship games was organised on the Boracay Newcoast Beachfront in the morning. Later, local tours were conducted around the islands. In the evening, the closing ceremony was held, where the IIA team presented their performance. Nepal stood first among all the institutes.



Indian delegation at the Boracay New Coast Beachfront



IIA performance at the Grand Friendship Night

This year saw the highest participation from India. There are also many office-bearers from India. Also, one student member attended ACA20 for the Student Jamboree. 46% of the delegates in ACA20 were from Zone A.



The next office bearers and committee chairs of ARCASIA

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NEWSLETTER SEPTEMBER

IIA Assam Chapter



IIA Assam Chapter's Young Architects Sub-Committee organised a seminar on Navigating Income Tax and GST Regulations for architects on 23 September 2023 at the Radha Govinda Baruah Conference Hall, Asam Sahitya Sabha, Guwahati, Assam. The seminar presented by CA Mahabir Agarwala and his team of experts in the field, covered crucial insights into Income Tax and GST regulations, including recent updates and practical guidance for professionals, especially young architects who are stepping into the field of professional practice. This Seminar helped us gain a deeper understanding of India's critical tax regulations and how to ensure compliance.

IIA Punjab Chapter

DISHA – A Discussion on 'Architecture Can Steer Society'

IIA Mohali Centre organized DISHA- a discussion on *Architecture Can Steer Society* on 22 September 2022 which provided a significant platform for exploring the profound impact of architecture on society. The event featured prominent architects who illuminated the multifaceted role of architecture beyond its conventional boundaries. Distinguished speakers, Ar. Balbir Verma, former President of IIA, Ar. Jit Kumar Gupta, Trustee of IIA, Ar. Anurag Verma, Executive Director of Chandigarh University and Er. Sahil Kansal, President of IPA Chandigarh Chapter, engaged in discussions with other esteemed guests. The event concluded with insightful remarks from Ar. S. Pritpal Singh Ahluwalia, Chairman of IIA Punjab, who emphasized the indispensable role architects play in shaping the future of our cities and communities. Ar. Paramjeet Singh, Chairman of IIA

Mohali Centre, echoed these sentiments, assuring attendees of similar future events.

The event shed light on the impact of architectural planning on urban development and societal progress by drawing examples from Chandigarh and Mohali. These showcased how meticulous planning and adherence to architectural norms left a lasting mark on modern society. The enduring influence of the age-old concept of *mohallas* emphasized the need for a harmonious blend of tradition and innovation in architectural endeavours. Dr. Prabhjot Kaur and Ar. Sarab Marwah played key roles in organizing the event. The discussions were enriched by the active participation of architects from various regions of Punjab.

This event fostered a deeper understanding of how architecture shapes the societies we inhabit.

Second Executive Committee Meeting and Installation of IIA Patiala Centre, EXPERT Talk on Plumbing Solutions

IIA Punjab Chapter held its second Executive Committee (EC) meeting in Patiala on 26 August 2023. Deliberations in the meeting centred on charting the course for future initiatives. The meeting culminated in the formation of new committees which will steer the Chapter towards achieving its objectives and ensure successful implementation of various projects and initiatives:

- *Architectural Education Committee:* Ar. Prabhjot Kaur
- *Financial Affairs and Event Committee:* Ar. Sanjay Kumar
- *Sports Committee:* Ar. Niranjan Kumar
- *Smart City Committee:* Ar. Rajan Tangri
- *Architects Welfare Committee:* Ar. Rajnish Walia
- *Women Architect Networking Committee:* Ar. Indu Bala Ahuja

Simultaneously, the installation of the IIA Patiala Centre took place, graced by the presence of the IIA Punjab Chapter Chairman, Ar. Pritpal Singh Ahluwalia. The Installation Ceremony marked the beginning of a new phase for the IIA Patiala Centre, promising innovation, growth, and transformative architectural endeavours.

In the gathering senior architects from Patiala contributed Rs. 1,72,000 in a single day from:



Mohali IIA Centre team with Ar. Jit Kumar Gupta, Trustee IIA. Ar. Balbir Verma former National President IIA, Ar. Pritpal Singh Ahluwalia, Chairman IIA Punjab Chapter.

Ar. G.S.Reshi (Rs. 1,00,000), Ar. L.R. Gupta (Rs. 21,000), Ar. P.S. Ahluwalia, Chairman (Rs. 21,000) and IIA Patiala Core Team (Rs. 30,000).

The gathering was marked with an expert talk on modern plumbing systems by Er. Sahil Kansal. He provided insights into modern plumbing solutions. Further, KK Eco-tech Pvt. Ltd. offered an in-depth explanation of various components of plumbing in contemporary construction practices. The session attracted the participation of more than 85 enthusiastic architects and architecture enthusiasts who left with a wealth of knowledge and inspiration.

The confluence of the 2nd EC meeting, the installation of IIA Patiala Centre, and the captivating expert talk on Plumbing systems underscored IIA Punjab's commitment to architectural excellence and knowledge dissemination.

IIA Karnataka Chapter

Installation of IIA Mangalore Manipal Centre and IIA Mangalore Manipal Centre

On September 15, 2023, the IIA Mangalore and Manipal Centre held its Installation Ceremony for elected Office Bearers and the Executive Committee aboard the *Abbakka Queen Cruise*. Special guests were Ar. Kumarchandra M.R. from IIA National Council and Ar. Mohan B.R., Chairman of IIA Karnataka Chapter. Members from various Chapters in Mysuru and Udupi also attended. Ar. Suprith Alva, President of the IIA Mangalore and Manipal Centre, extended a warm welcome. Ar. Kumarchandra M.R. highlighted IIA's achievements.

The Installation Ceremony featured Ar. Kumarchandra M.R. and Ar. Mohan B.R. alongside other Office Bearers. The newly-elected Governing Body for 2023-2025 was installed with IIA lapel pins.

Ar. Mohan B.R. expressed hopes for cooperation between the Chapter and IIA Mangalore and Manipal Centre's programmes. A presentation was made by Mr. Mahesh Chandra Pandey representing Gujarat Guardian Limited, the event sponsor. This was followed by a documentary showcasing Mangalore's history and culture. Honorary Secretary Ar. Sunil Talithaya gave a vote of thanks. The programme concluded with dinner and DJ and singing performances.

Installation of IIA Kalaburagi Centre

The Installation Ceremony of the newly-elected team of IIA Kalaburagi Centre for the term 2023-2025 took place on September 23, 2023, in collaboration with Poojya Dr. Shivakumar Swamiji School of Architecture, Kalaburagi. Dr. Bhimashankar C. Bilgundi, President HKE & Chairman, Governing Body, PDSSA & PDACE, and Ar. P.S. Mahagaonkar, MD at Mahagaonkar Associates presided over the event. Chief Guests included Sri Allamprabhu Patil, MLA of Kalaburagi South, and Ar. Mohan B.R., Chairman of the IIA Karnataka Chapter. Notable Guests of Honour included Ar. Vidyadhar Wodeyar, COA, New Delhi - Karnataka State Coordinator, Ar. Udaya Shankar Doni, National Executive Council Member, IIA, and Dr. Raja Krishnappa Nayak, Balavantha Bahari Bahaddur Samsthan, Shorapur.

The event also saw the presence of prominent personalities such as Mr. Shashikant Patil, President of Kalyana Karnataka Chamber of Commerce & Industry, Mr. Manjunath Jeevarjit, Secretary of Kalyana Karnataka Chamber of Commerce & Industry, Mr. Uday Shetty, President of CREDAI, Kalaburagi, and CA. Mallikarjun Veeranna Mahantgol, Chairman of the Indian Institute of Chartered Accountants, Kalaburagi. Held at the PDA Auditorium in PDA College of Engineering, Kalaburagi, the ceremony began with a *Guruvandana* event, followed by the book launch of *Anveshane*, authored by Prof. Ar. Shashikala Mama and Prof. Ar. Vijayalakshmi Patil, faculty at PDSS School of Architecture, Kalaburagi. The book documents the architectural details of the Surpur Samsthana palace in the Yadgir district.

Sri. Allamprabhu Patil, MLA of Kalaburagi South, acknowledged and accepted a memorandum from the IIA team, committing to allocate a CA site for the IIA Kalaburagi Centre's office. The newly elected Office Bearers of the IIA Kalaburagi Centre for the term 2023-2025 were introduced, along with the Executive Committee Members. The event garnered participation from students of both colleges, as well as around 60 architects and academicians from Kalaburagi, Bidar, and Raichur. Sponsors included Shree Shyam, Aditya

Birla Ultratech, Nippon Paint, Mahadev Marbles and Granites and Daikin Airconditioning.



The new Team of IIA Mangalore Manipal Centre (2023- 2025) at the Installation Ceremony on 15 September 2023

Technical meet and Spotlight Event of Indian Institute of Architects Kalaburagi Centre

Daikin India, in partnership with the Indian Institute of Architects Kalaburagi Centre, hosted a technical meet on Daikin's VRV X System on September 8, 2023, at Venu-Kyriad Hotel, Gold Hub, Kalaburagi. The event, organized with Star Air System, Kalaburagi, featured presentations by Mr. Murali Katari and Mr. Ranjit T., Operation Heads of VRV Karnataka and VRV Regional. Around 90 practicing architects from Kalaburagi, including IIA Kalaburagi Centre members attended the event. The core theme, centred on variable refrigerant volume (VRV), highlighting advanced software and hardware technologies for energy-efficient and comfortable air conditioning through VRV, VRT and VAV technologies.

Subsequently, the Indian Institute of Architects presented its *Spotlight Event* with Ar. Paranjyoti R. Patil, Principal of PDSS School of Architecture, Kalaburagi, discussing *Architecture and Urban Forestry*. This included transforming underutilized city spaces like road medians into green zones using the *Miyawaki Method*, optimizing space and promoting sapling growth while preventing weed growth. The event concluded with a dynamic Q & A session and speaker felicitation for sharing valuable insights with the architecture community, both established and aspiring.

IIA Himachal Pradesh Chapter

IIA Leadership Conclave and Design Carnival 2023, Bhuvaneshwar, Odisha

Ar. Nand Lal Chandel, Chairman IIA HP Chapter, along with Ar. Sushil Sharma, Joint Hon. Secretary, IIA HP Chapter attended the IIA Leadership Conclave and Design carnival 2023, at Bhuvaneshwar, Odisha held on 9 and 10 September, 2023. During the Conclave, Office Bearers of all Chapters were invited and training imparted to them regarding various aspects of IIA.

Upon his return to Himachal Pradesh, Ar. Nand Lal Chandel shared that the Conclave was marked by insightful sessions, esteemed speakers, book release and cultural extravaganza. He further shared that the Valedictory Function of the Design Carnival 2023 marked the conclusion of the successful two-day Conclave. He also narrated that it had been a successful platform for architects, urban planners, designers and visionaries to explore ground-breaking ideas and to discuss the future of architecture. Ar. Sushil Sharma also expressed his delight in attending this event which motivated all stakeholders and paved the way forward for a brighter future for architecture.

Celebrating World Architecture Day 2023

The EC meeting of IIA HP Chapter was held online on 24 September. The Chairman, IIA HP Chapter, Ar. Nand Lal Chandel addressed the participants expressed in detail, the concerns of the IIA national body and shared its mandate regarding the celebration of World Architecture Day 2023 on 2 October, 2023 under the directed three verticals: educational Institutions and architectural professionals – from both, the government and in private practice; and to spread the message of various concerns related to architecture in respective states, at the national level and at the world level at large.

During the meeting, it was decided to celebrate this day with full vigour and enthusiasm at the three zones of Himachal Pradesh: Shimla, Dharamshala (Kangra), Mandi and at NIT Hamirpur. Dr. Satish Kumar Katwal, Head, School of Architecture Kangra at Nagrota Bagwan has been assigned the responsibility of organising the event at his Institute. Three more institutions, namely the Govt. Polytechnic, Sundernagar, the Govt. Polytechnic, Ambota and the Govt. Polytechnic for Women Rehan, Kangra (which impart the diploma in architecture) shall also join and witness the occasion. Ar. Sushil Sharma, Jt. Hon. Secretary was directed to collaborate with Ar. Rajiv Sharma, Chief Architect at HPP WD, Shimla to mark the occasion at Shimla Zone. At Mandi Zone, Ar. Vijay Thakur under the able guidance of Ar. Nand Lal Chandel shall take the lead and at NIT Hamirpur, Dr. Veenushree has been entrusted with the task of celebrations.

The meeting ended with a vote of thanks and the hope that World Architecture Day 2023 will be celebrated with all concerns and deliberations with IIA HP Chapter for further highlighting the event at the IIA National platform.

2nd Council Meeting Held at Bhubanewar, Odisha on 9th September 2023 for the Term 2023-2025.

Sr.No.	Assoicate to Fellow	Membership No	Place
1	Ar. Sircar Ritam	F14010	Kolkata
2	Ar. Atul Saraf	F18809	Ranchi
Sr. No.	Direct Fellow	Membership No	Place
1	Ar. Amar Ashok Tendulkar	F27546	Brihan Mumbai
2	Ar. Arshia Khajooria Hazarika	F27547	Jammu and Kashmir
3	Ar. Keyur Vadodaria	F27548	Ahmedabad
4	Ar. Laxmi Vyankatesh Bhise	F27549	Brihan Mumbai
5	Ar. Ankan Kumar Basa	F27550	Odisha
6	Ar. Manoj Panwar	F27551	Sonipat
7	Ar. Amit Jain	F27552	Telangana
Sr. No.	Associate	Membership No	Place
1	Ar. Priyadarshini Chaturvedi	A27553	Punjab
2	Ar. Akanksha Rajesh Sharma	A27554	Punjab
3	Ar. Raturaj R Kale	A27555	Belgaum
4	Ar. Yashaswini S	A27556	Mysuru
5	Ar. Sivakumar S	A27557	Puducherry
6	Ar. Kaushika P	A27558	Chennai
7	Ar. Karthickbabu S	A27559	Puducherry
8	Ar. Rohit Mankar	A27560	Brihan Mumbai
9	Ar. Krish Mewawala	A27561	Brihan Mumbai
10	Ar. Athulya A S	A27562	Calicut
11	Ar. Archana Vikas	A27563	Calicut
12	Ar. Shubha P Deshmukh	A27564	Karnakata
13	Ar. Athul Rajesh	A27565	Chennai
14	Ar. Jayraj Uday Chhaya Ghatge	A27566	Kalyan-Dombivli
15	Ar. Nikhil Prashant Vaishali Dudhe	A27567	Kalyan-Dombivli
16	Ar. Omkar Vilas Jayshree Bhagat	A27568	Kalyan-Dombivli
17	Ar. Amit Vilas Vidula Joshi	A27569	Kalyan-Dombivli
18	Ar. Madhan Kumar J	A27570	Chennai
19	Ar. Omkar Rameshrao Kulkarni	A27571	Pune
20	Ar. Aziya H Mondal	A27572	Thrissur
21	Ar. Avanti Amol Gole	A27573	Pimpri Chinchwad
22	Ar. Piyusha Kushal Jain	A27574	Akola
23	Ar. Shraddha Ravindra Bhansali	A27575	Akola
24	Ar. Nilesh Jagdish Varsha Gurbani	A27576	Akola
25	Ar. Suraj Shyam Heda	A27577	Akola
26	Ar. Nilesh Gopichand Soniya Dhanwani	A27578	Akola
27	Ar. Akkashvarman T	A27579	Tamil Nadu

28	Ar. Ankit Anand	A27580	Uttar Pradesh
29	Ar. Vaibhav	A27581	Uttar Pradesh
30	Ar. Avinash Ghai	A27582	Uttar Pradesh
31	Ar. Amit Kumar	A27583	Bihar
32	Ar. Himanshi Singh	A27584	Uttar Pradesh
33	Ar. Sankar S	A27585	Trivandrum
34	Ar. Garima Sahu	A27586	Rajnandgaon
35	Ar. Ankesh Rakesh Sinha	A27587	Rajnandgaon
36	Ar. Harshida Rathod	A27588	Rajnandgaon
37	Ar. Vinit Meshram	A27589	Rajnandgaon
38	Ar. Himanshu Parchani	A27590	Rajnandgaon
39	Ar. Rishabh GC Sarita Jain	A27591	Rajnandgaon
40	Ar. Garima Rathod	A27592	Rajnandgaon
41	Ar. Krishna Patel	A27593	Rajnandgaon
42	Ar. Parth Patel	A27594	Rajnandgaon
43	Ar. Vishal Vijay Jadhav	A27595	Pune
44	Ar. Akanksha Gaurav Agarwala	A27596	Nagpur
45	Ar. Pankaj	A27597	Nagpur
46	Ar. Dinesh Arun Bhashnurkar	A27598	Nagpur
47	Ar. Sachin Krushnaji Kukade	A27599	Nagpur
48	Ar. Vinit Jaywant Kalpana Nikumbh	A27600	Brihan-Mumbai
49	Ar. Harsh Enkhia	A27601	Uttar Pradesh
50	Ar. Lakshay Pareek	A27602	Haryana
51	Ar. Sonu	A27603	Haryana
52	Ar. Sourabh Mehta	A27604	Haryana
53	Ar. Suruchi Kumari	A27605	Faridabad
54	Ar. Sandesh Sengar	A27606	Faridabad
55	Ar. Poonam Vijaykumar Solanki	A27607	Pune
56	Ar. Aakash Hemandra Shah	A27608	Pune
57	Ar. Neethu Chacko	A27609	Calicut
58	Ar. Abhishek Prakash	A27610	Kottayam
59	Ar. Dhanashree Rajesh Deshmukh Panchal	A27611	Kalyan-Dombivli
60	Ar. Mrunmayigauree Sarvesh Nandgirikar	A27612	Kalyan-Dombivli
61	Ar. Swarda Vighnarajendra Pradnya Vinod	A27613	Kalyan-Dombivli
62	Ar. Khadakban Urvi Ajitkumar Kajal	A27614	Brihan-Mumbai
63	Ar. Nivedita Yashwant Fadnis	A27615	Nagpur
64	Ar. Ahefaz Allauddin Panjwani	A27616	Nagpur
65	Ar. Harshal Panjabrao Ganorkar	A27617	Nagpur
66	Ar. Devika Bangadkar	A27618	Nagpur
67	Ar. Jitendra Farkade	A27619	Nagpur
68	Ar. Sanyukta Sudheer Pandharpurkar	A27620	Nagpur
69	Ar. Sumeet Sharad Patange	A27621	Nagpur
70	Ar. Ayushi Kour Vohra	A27622	Raipur
71	Ar. Shurayu Rajiv Rahate	A27623	Nagpur
72	Ar. Ameya Dipak Barbadikar	A27624	Nagpur

73	Ar. Vishal Kumar	A27625	Raipur
74	Ar. Abhinav Jaiswal	A27626	Rajpur
75	Ar. Prageet Sharma	A27627	Bhilai
76	Ar. Apurva Sinha	A27628	Raipur
77	Ar. Sanad Suresh Parab	A27629	Goa
78	Ar. Anjali Anna Philip	A27630	Goa
79	Ar. Kevin Mathew	A27631	Kollam
80	Ar. Ashhad Naseem V K	A27632	Calicut
81	Ar. Beauty Sasidharan Acharya	A27633	Lonavala
82	Ar. Shubham Chandrakant Joshi	A27634	Lonavala
83	Ar. Viraj Sunil Kapadia	A27635	Lonavala
84	Ar. Diksha Chetan Geeta Jain	A27636	Lonavala
85	Ar. Kalpataru Behera	A27637	Odisha
86	Ar. Avisekha Puri	A27638	Odisha
87	Ar. Aashlesh Kantilal Shrikhande	A27639	Nagpur
88	Ar. Shivani Sanjay Sharma	A27640	Nagpur
89	Ar. Devesh Rajendra Chindhe	A27641	Nagpur
90	Ar. Akhil Menon	A27642	Thrissur
91	Ar. Nikhila Nelson	A27643	Cochin
92	Ar. Sherin Shaji	A27644	Kollam
93	Ar. Joe Jacob Johnson	A27645	Trivandrum
94	Ar. Naveen S Nair	A27646	Trivandrum
95	Ar. Sourabh Jain	A27647	Rajnandgaon
96	Ar. Surya R	A27648	Cochin
97	Ar. Abin Ponnachen	A27649	Kerala
98	Ar. Nevin Nixon	A27650	Kerala
99	Ar. Khushboo Smriti Raje	A27651	Bihar
100	Ar. Sankalp Sinha	A27652	Brihan-Mumbai
101	Ar. Kundan Kunal	A27653	Bihar
102	Ar. Ujjwal	A27654	Bihar
103	Ar. Ashish Kumar	A27655	Bihar
104	Ar. Manish Kumar	A27656	Bihar
105	Ar. Mintu M S	A27657	Kollam
106	Ar. Gokul R	A27658	Kollam
107	Ar. Suhesh Sugathan	A27659	Thrissur
108	Ar. Ramees Rifas	A27660	Kollam
109	Ar. Ashik N	A27661	Kollam
110	Ar. Sapna Pramod Bhura	A27662	Rajnandgaon
111	Ar. Rajneesh Kumar	A27663	Rajnandgaon
112	Ar. Kajal Raicha	A27664	Rajnandgaon
113	Ar. Sailal S	A27665	Trivandrum
114	Ar. Jenin Stanley	A27666	Chennai
115	Ar. Mohamed Abbas Ali E	A27667	Salem
116	Ar. Roopa Sree Ram S R	A27668	Chennai
117	Ar. Arthi J	A27669	Coimbatore

118	Ar. Julia	A27670	Trivandrum
119	Ar. Satyanshu Kumar	A27671	Jammu & Kashmir
120	Ar. Muhammed Hisham M P	A27672	Calicut
121	Ar. Giduturi Chandrasekhar	A27673	Visakhapatnam
122	Ar. Ayush Dogne	A27674	Indore
123	Ar. Niraj Arun Anuradha Kathole	A27675	Amravati
124	Ar. Shini Bansal	A27676	Mohali
125	Ar. Nikhil Subhash Hemate	A27677	Indore
126	Ar. Sourabh Gour	A27678	Indore
127	Ar. Taniya Jain	A27679	Visakhapatnam
128	Ar. Kamaraju Kappala	A27680	Visakhapatnam
129	Ar. Varuna Shukla	A27681	Karnataka
130	Ar. Shahuraj Kamlakar Salunkhe	A27682	Satara
131	Ar. Sajan Solanki	A27683	Indore
132	Ar. Simranjot Singh Bagga	A27684	Ludhiana
133	Ar. Yogesh Ramnath Wakchaure	A27685	Pimpri-Chinchwad
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135	Ar. Chandrika Kumari Mohapatra	A27687	Odisha
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137	Ar. Jicks Shaju	A27689	Thrissur
138	Ar. Shivani Bhunjia	A27690	Odisha
139	Ar. Astha Rajeshkumar Shah	A27691	Gujarat
140	Ar. Noufila Musthafa P	A27692	Kannur
141	Ar. Shreyas Mahajan	A27693	Indore
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143	Ar. Sonali Shivaji Indalkar	A27695	Pune
144	Ar. Aishwarya Vinay Joshi	A27696	Pune
145	Ar. Bharat Bushan Mussa	A27697	Jammu & Kashmir
146	Ar. Vaishnavi R	A27698	Thanjavur
147	Ar. Devanshi Thakuriya	A27699	Rajasthan
148	Ar. Arjun A Joshy	A27700	Thrissur
149	Ar. Nithyapriya S	A27701	Tamil Nadu
150	Ar. Akshay	A27702	Rajasthan
151	Ar. Shamika Hemant Phadke	A27703	Pune
152	Ar. Shweta Vijay Pawar	A27704	Pune
153	Ar. Manas Ranjan Nayak	A27705	Odisha
154	Ar. Parthiba Chakraborty	A27706	Odisha
155	Ar. Purnachandra Kishore B	A27707	Andhra Pradesh
156	Ar. Ashin Thomas	A27708	Kannur
157	Ar. Debamrita Saha	A27709	West Bengal
158	Ar. Anuraj C P	A27710	Calicut
159	Ar. Mohammed Zayan T P	A27711	Kannur
160	Ar. Surya Singh	A27712	Rajasthan
161	Ar. Ramsingh Malik	A27713	Uttar Pradesh
162	Ar. Pratiksha Shaktawat	A27714	Rajasthan

163	Ar. Harrshiny S	A27715	Trichy
164	Ar. Uddipan Adhikary	A27716	West Bengal
165	Ar. Hemang Dave	A27717	Rajasthan
166	Ar. Sengol Robinson S	A27718	Trichy
167	Ar. Manish Gupta	A27719	New Delhi
168	Ar. Rittika Bose	A27720	West Bengal
169	Ar. Sriram E	A27721	Coimbatore
170	Ar. Abdul Ahdhal Nihal Nazeer	A27722	Kannur
171	Ar. Rishad	A27723	Malappuram
172	Ar. Satish Kumar Jangid	A27724	Rajasthan
173	Ar. Sanyukta Rahul Ravat	A27725	Pune
174	Ar. Mehran Aslam	A27726	New Delhi
175	Ar. Ayswarya P V	A27727	Malappuram
176	Ar. Surbhi Amit Porwal	A27728	Indore
177	Ar. Juhi Prasad	A27729	Birhan-Mumbai
178	Ar. Abhirami C S	A27730	Salem
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181	Ar. Rahul Bose	A27733	West Bengal
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184	Ar. Vijaya Singh Mazumder	A27736	West Bengal
185	Ar. Nand Lal Tanwar	A27737	Rajasthan
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187	Ar. Suruchi Sharma	A27739	Indore
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189	Ar. Pudhuma Bharathi K	A27741	Tiruchirappalli
190	Ar. Priyadarshini Baksi	A27742	West Bengal
191	Ar. Ruchi Pawar	A27743	Indore
192	Ar. Namranil Mukherjee	A27744	Kalyan-Dombivili
193	Ar. Rita Dattatraya Sharma	A27745	Nashik
194	Ar. Saniya Bansal	A27746	Indore
195	Ar. Gyana Ranjan Behera	A27747	Odisha
196	Ar. Naja Sulaikha	A27748	Calicut
197	Ar. Ravi Kantilal Patel	A27749	Mehsana-Gandhi
198	Ar. Shahbana P P	A27750	Calicut
199	Ar. Sanmeet Milind Potdar	A27751	Maharashtra
200	Ar. Franklin V Joy	A27752	Kerala
201	Ar. Sajith P	A27753	Calicut
202	Ar. Nadim Akhtar	A27754	Odisha
203	Ar. Sumit Shankar Basa	A27755	Odisha
204	Ar. Girish Marutirao Karande	A27756	Pune
205	Ar. Priyabrata Rautray	A27757	Odisha
206	Ar. Chinmayee Rath	A27758	Odisha
207	Ar. Shailendra Kumar Nangalia	A27759	Odisha

208	Ar. Mananjay Mallick	A27760	Odisha
209	Ar. Smrutipriya Sahoo	A27761	Odisha
210	Ar. Suraj Tripathy	A27762	Odisha
211	Ar. Rudradutta Das	A27763	Odisha
212	Ar. Miras Kerketta	A27764	Odisha
213	Ar. Ashutosh Dixit	A27765	Odisha
214	Ar. Sabyasachi Mohanty	A27766	Odisha
215	Ar. Aayushee Das	A27767	Odisha
216	Ar. Saajan Varanasi	A27768	Odisha
217	Ar. Lakshya Satija	A27769	Tiruchirappalli
218	Ar. Chandralekha M	A27770	Kerala
219	Ar. Biranchi Sankar Panda	A27771	Odisha
220	Ar. Ankita Deka	A27772	Assam
221	Ar. Divin P	A27773	Calicut
222	Ar. Krushna Chandra Das	A27774	Odisha
223	Ar. Richa Dilip Manali Raut	A27775	Birhan-Mumbai
224	Ar. Akash Ranjan Mallik	A27776	Odisha
225	Ar. Priyam Ballav Goswami	A27777	Assam
226	Ar. Auro Ashish Ghosh	A27778	Odisha
227	Ar. Umesh Chandar Khandekar	A27779	West Bengal
228	Ar. Indraneel Roy	A27780	West Bengal
229	Ar. Aarti Vij	A27781	Haryana
230	Ar. Manasi Ajit Kulkarni	A27782	Sangli
231	Ar. Ashita Jatin Shah	A27783	Sangli
232	Ar. Neha Nandkumar Bane	A27784	Sangli
233	Ar. Anuja Appaso Hulikire	A27785	Kolhapur
234	Ar. Shrutika Nitin Kulkarni	A27786	Sangli
235	Ar. Rais Rashid Kalal	A27787	Sangli
236	Ar. Neha Dattaguru Jadhav	A27788	Sangli
237	Ar. Digvijay Dipak Patil	A27789	Sangli
238	Ar. Rohit Tripathi	A27790	Ranchi
239	Ar. Suresh Kumar J	A27791	Chennai
240	Ar. Debraj Chakraborty	A27792	Assam
241	Ar. Pratishtha Jain	A27793	Rajasthan
242	Ar. Shruti Bharat Kalapana Shah	A27794	Sangli

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**34th JKAYA shall open for participation for sending entries
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For Award Information :-

Please Contact Award Secretariat :

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