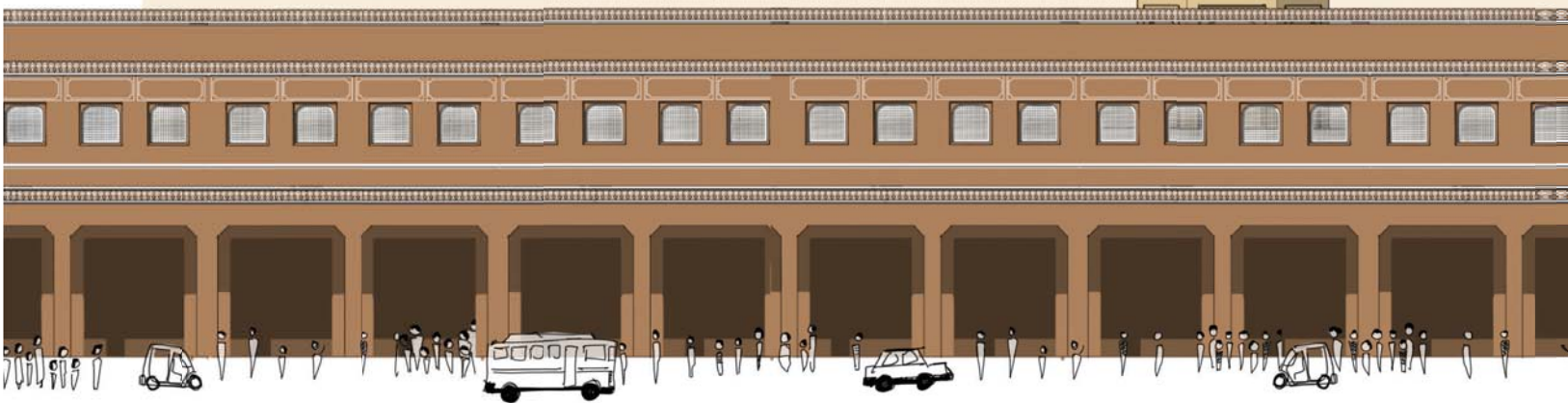




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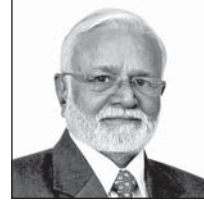
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EDITOR'S NOTE

Dear Fellow Members of IIA,

We celebrated World Architecture Day (WAD) on 2 October 2023, the first Monday of the month to celebrate the importance of architecture in developing cities and human settlements. The theme of WAD this year was *Architecture of Resilient Communities* which intended to highlight the capacity and responsibility of creating sustainable community life and to open up dialogues the within international forum for forming symbiotic relationships between the urban and the rural. These dialogues are definitely going to create relevant questions for architecture to ponder upon.

This provokes us to pause and rethink our development objectives and whether we can look forward to more sustainable ways to progress towards our aspirations of development. And none other than architects have a significant role to modulate these thought processes within the design realm and disseminate them through educating various stakeholders of society to create the much-needed impact in this direction. This responsibility and the way forward has been aptly highlighted in our President's address.

We have lots to achieve and IIA has been committed to address these aspects through various activities by the IIA Chapters and Centres. We experienced the exuberance of the *Rajasthan Architecture Festival (RAF)* organised by the IIA Rajasthan Chapter from 6 to 8 October 2023, where the dialogues by architects Pan-India discussed subjects such as urbanism for the future, technology like AI, futuristic cities, parametric architecture, new dimensions in architecture, high-rise structures, the metaverse, etc. This has covered one of the aspects of this year's theme of WAD. An attempt to address the other aspects of rural aspirations and problems would be made in the forthcoming IIA activities planned by other IIA Chapters in the near future.

It is proud movement for all IIA Members and Council Members that in view of keeping a sustainable attitude and approach in IIA, we have able to get a unanimous decision for JIIA to go for 'print on demand'. This is paradigm shift of our fraternity to think 'green' in action. I congratulate all IIA members and a big thank you to all for

supporting this decision. We assure you that the e-copies will be delivered to you on your registered email as soon as each issue is ready.

Therefore, let work together with a resilient promise to overcome all emerging challenges faced by Planet Earth and to make the profession of architecture more qualitative, inclusive and supportive of the communities and society.

Jai Bharat.. Harit Bharat..

Prof. Vinit Mirkar
Editor



Ar. Vinit Mirkar

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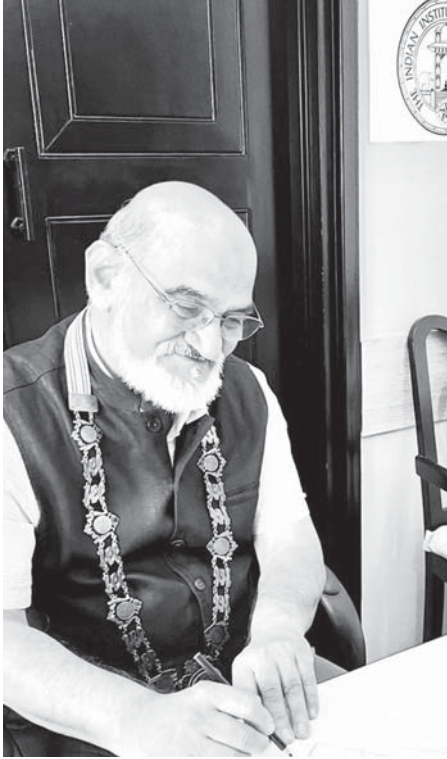


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PRESIDENT'S MESSAGE



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

Dear Fellow Members of The Indian Institute of Architects, Considering the fact that Planet Earth is subjected to enormous challenges and threats posed by rapidly increasing population, massive urbanization, rapid climate change, increasing global warming, rising global temperature, rising carbon footprints and rising poverty leading to an irreplaceable loss of valuable flora and fauna, adversely impacting biodiversity, environment and ecology of regions and nations, making human settlements unsustainable, unsafe and prone to various disasters both natural and manmade.

Hence there exists an urgent need to make this world and human settlements more sustainable, liveable, effective, efficient, sustainable and supportive of the environment and ecology.

In order to use and leverage the expertise and strength of the profession of Architecture to make communities **resilient**, we, the Associate and Fellow Members, Members of the Council and Office Bearers of The Indian Institute of Architects, on this **World Habitat Day and World Architecture Day**, dated 2 October 2023, do hereby commit, affirm and declare:

- *That we Architects shall stand united and committed to overcome all emerging challenges faced by Planet Earth to make this world a better place to live and work in.*
- *That we shall use all available resources at our command to help and assist all institutions and organisations, operating at local, national and international levels, in achieving the Sustainable Development Goals as defined by UNDP in the Paris Agreement.*
- *That we shall aid, assist, advise and support local, state and national governments, in fulfilling all the objectives defined in the national and local agendas, related to making human settlements zero waste and carbon neutral.*
- *That we shall use all our knowledge, skill, understanding and expertise gained in the profession of Architecture to promote public good to make our cities and communities safe against all natural and manmade disasters.*
- *That we shall leverage our professional resources to create a state of art and sustainable built environment to minimize the adverse impact of the built environment on the natural environment.*
- *That we shall assist the parastatal agencies in achieving the goal of affordable housing for all by designing cost-effective, energy efficient and time efficient housing by evolving state of art design solutions based on latest technologies and materials.*
- *That we commit ourselves to improve, upgrade and make the architecture teaching-learning more qualitative, rational, relevant and supportive to the practice of Architecture and empower architects as professionals.*
- *That we shall focus and work, on a continued basis, to aid, assist, empower architects and make architectural practice more professional and productive.*
- *That as an apex professional institution representing Architects in the country, we shall cooperate and collaborate with other professional institutions in promoting public good and making the built environment more productive and qualitative.*
- *That we commit ourselves to associate, co-operate and collaborate with all professional institutions representing architects/ architecture at regional, national and global levels to work jointly to make the profession of architecture more qualitative, productive and supportive of the communities and society.*

Ar. Vilas Avachat
President
The Indian Institute of Architects
2 October 2023

COVER THEME

The Pink City



In the spirit of the Rajasthan Architecture Festival held in Jaipur by IIA Rajasthan Chapter, this month JIAA pays homage to the Pink City's rich heritage. The digital illustration captures the essence of Jaipur, India's first planned city, embodying foresight where architectural ingenuity and urban planning converge harmoniously. The historic grid-iron plan of the city was an unconventional urban layout conceived by the visionary Sawai Jai Singh II in 1727, and it continues to influence and inspire even today, showcasing how a city's comprehensive vision can stand as a testament to the interplay of culture, history, politics, architectural brilliance, and urban planning. Nestled in the arid landscapes of Rajasthan, Jaipur stands as a living testament to the fusion of tradition and innovation, bathed in the warm hues of its iconic pink buildings.

The cover art, depicting Isarlat / Sargasuli in Jaipur stands as a symbol of astronomical and scientific pursuits of the Rajput rulers of Jaipur. Isarlat / Sargasuli is a seven-storied minaret located in the heart of Jaipur, near the Tripolia Gate and the City Palace. It was constructed during the reign of Maharaja Sawai Iswari Singh, who ruled the region from 1743 to 1750. The name "Isarlat" is derived from the Maharaja's first name, Iswari.

The purpose of building this minaret was primarily functional although there are myths or anecdotes attached to it. It served as an observatory tower from which the king could monitor the movement of the sun, moon, and stars. This astronomical tower allowed the royal astronomers and scholars to make calculations related to time, calendar, and celestial events.

'Sargasuli' literally means passage to heaven because of its height of 140 feet and was once the tallest building of Jaipur. Once a watch tower to guard the royal residence, it now provides a breath-taking view of the city. Apart from its height, its distinctive yellow colour minaret contrasts with the surrounding pink buildings.

Beyond the majestic facades of palaces and forts, Jaipur pulsates with the heartbeat of a dynamic society. The bustling markets echo with ancient traditions, and artisans skilfully craft wonders that bridge the past with the present. The vibrant bazaars, a kaleidoscope of colours and textures, narrate stories of trade routes and cultural exchanges.

Yet, Jaipur is not merely a relic of the past; it's a canvas where modernity paints its strokes with finesse. The evolving skyline gracefully juxtaposes ancient traditions with contemporary aspirations, reflecting the city's dynamic spirit.

Jaipur's essence is revealed through architectural landmarks, historical narratives, analytical insights and captivating anecdotes. The chosen illustration, a nod to the city's royal heritage, accentuates the balance between dynamics of socio-cultural aspects and the built environment. The Rajasthan Architecture Festival was a representation of this architectural odyssey and of the state's living tapestry, where the past and present coalesce in a symphony of design and culture.

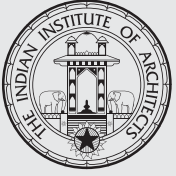
*Digital Illustration adapted from the book **Jaipur : A Visual Odyssey** (p.19)*

by Ar. Manisha Sharma, Ar. Gaurav Patel and Aanchal Gupta.



Ar. Manisha Sharma (A21803) is a graduate in Architecture from NIT Trichy (2005-10) and post graduate in Urban Planning from MNIT Jaipur (2014-16). She is a passionate architect and urban planner based in Jaipur. She specializes in using local materials and advocating water-sensitive planning, and thrives on innovative solutions. As the founder of a design and research studio, urbanART, she blends creativity with conscientious urban development, contributing to a more sustainable and culturally enriched built environment.

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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

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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/hyhsCoK6QPe6qDJu8>

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

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(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.
9. It is understood that submission from an author is an original work, unpublished anywhere else, and that IIA and JIIA are in no way responsible for any matter or dispute arising out of the publication of the same.
10. All authors are requested to refer to further detailed information available on the JIIA website.

A Study on the Role of Streets as Public Space

A Case Study of Udupi Streets

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Abstract

Streets in the Indian context are multi-functional spaces. The primary role of streets as public spaces is a mode of connectivity, as a space of access to built and unbuilt space, and as a public realm that forms the urban corridors around which social interaction occurs in cities. However, how we communicate with this space of street in terms of multi-functionality is often ignored in cities. Indeed, streets in India are known for their space that communicates in terms of culture, celebration and interaction with people. Studying the Car Street/ *Ratha Beedi* and K.M. Marg of Udupi as a case study, this paper analyses the socio-spatial relationship that shapes the street experience and culture at the city scale, neighbourhood and the street itself in different typological contexts. The study examines the roles of streets as public spaces based on theoretical studies, focusing on accessibility, connectivity, safety, comfort and sensory qualities that make the Udupi streets vibrant.

Keywords: *Streets, Public Space, Udupi, Street Activities.*

Introduction

Streets are vital, meaningful, and connected spaces through which city life throbs. The streets facilitate

the activities that give us character, identity, and meaning. The spaces where we have all the memories that are associated with people are those streets. In any city across India, we find the life and soul of the city lies in its public spaces such as streets and squares which serve numerous functions and roles that enrich the overall urban experience.

According to Amos Rappaport (1969), streets can be defined in two ways – based on use, as a setting for certain activities, and with a morphological definition where streets are linear spaces lined with buildings making them infills within the space people feel necessary. Cliff Moughtin (2007) highlights the ‘overlooked’ role of streets as public spaces, despite their historical role in providing open spaces for urban communities. The role and the character of streets, from being streets for defining settlement patterns of cities and towns to the exclusive domain of cars, have witnessed a great change since the publication of the first public life-based theory study by Jane Jacobs, *The Death and Life of Great American Cities* in 1961. Streets have gained a new level of importance, especially in the last few decades.

The role of streets as a public place

Public space encompasses streets, alleys, buildings,

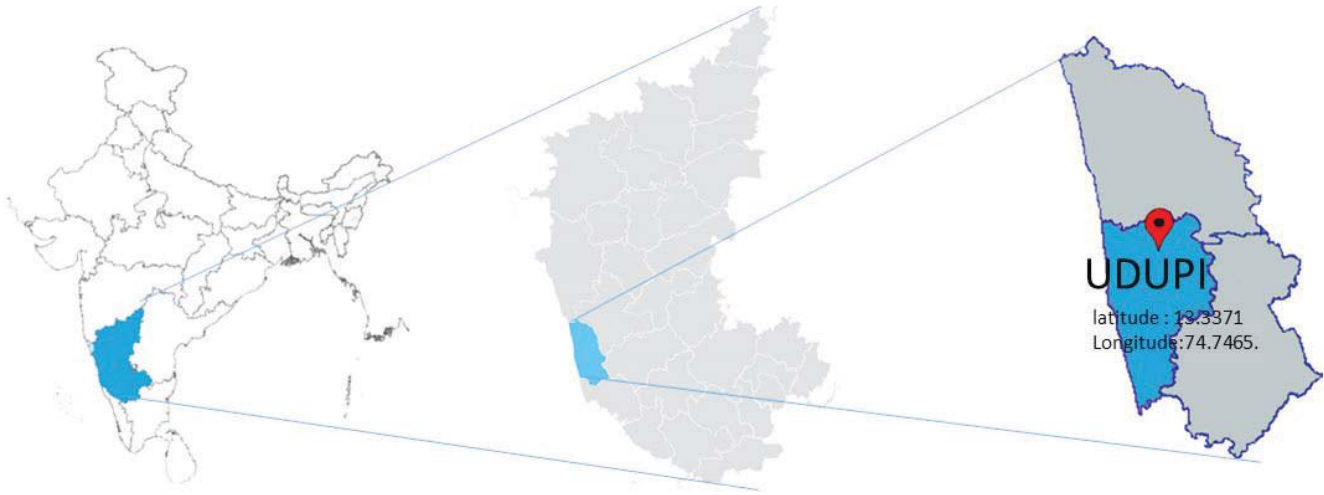


Figure 1: Location of Udupi
(Source: Adapted by Authors)

squares, and bollards—essentially, any element that constitutes the setting. Public space includes all the parts of the urban form where everyone has physical and visual access. The function of a street defines a parameter like accessibility, which refers to how easily one can access buildings from a street. Streets function as public spaces because they are accessible to all people, regardless of their caste, creed, age, gender, culture, or ownership, and they provide an equal opportunity to interact.

In cities, streets are that area of public space that, regardless of their origin, is the most widely used and accessible, allowing for a wide range of cultural, economic, political, and social activities throughout the length of street.

Streets as Connectors

The streets are a dynamic entity that gives a sense of movement to vehicles as well as pedestrians. In addition to being a means of transportation, streets play a crucial role in connecting people and communities. They serve as functional arteries through which people can move, interact and access various amenities within a city. In today's metropolitan cities where the huge skyline of high density housing with a definitive land use shall promote more vehicular use for a long distance. For example, cities like Bangalore or Hyderabad where IT industries or tech parks are located with a definitive land use at Electronic City at Bangalore or Hi-Tec city of Hyderabad and the housing units that are to be served for the people of IT park are located far away from the place of work. Thus people are forced to take the vehicles for reaching the workplaces from their residence. Therefore, it is imperative to prioritize the development of streets that are not only efficient for

vehicles but also promote connecting shortest paths to access varied land use.

Streets as access to built and unbuilt space

A street is a three-dimensional space between buildings that facilitates public interaction. Furthermore, streets have strong physical features, and the continuity and the human scale (height-to-width ratio) of street walls determine the sense of spatial closure within a street. In other words, the street does not exist independently, but rather as an extension that is dependent on the modifications made to the edge of the building and the space that surrounds them having diverse uses on the ground floor of the building. For example, a street used for street vending or interacting with strangers at the edge of a building (which is perceived as a safer place), a place to sit and pause- that defines the character of the building. Thus a comfortable and safer place to use for people of all ages and abilities, and are of human scale, determines the quality of a street. However, recent urban and neighbourhood planning developments are reducing this interrelationship between buildings and streetscape.

Streets as public realm

The street is known for the public interaction which it allows- it to assemble, celebrate, and to earn livelihood. According to Carmona, et al (2003), the public realm combines both physical space and the social activity dimension which includes spaces or settings that may be physical, publicly owned and those that support or facilitate public life and social interaction. Montgomery (2013) stated that 'streets are undoubtedly the most important elements in a city's public realm which defines the parameter of place-making.' This includes the network of spaces



Figure 2: Map of 8th century Udipi
(Source: Graphics by students of V22)

and corners where the public are free to go, interact, gather or simply watch as passers-by or even the street corners where a tree marks the identity of the street to pause and interact. The type of vegetation that provides shade and comfort to people, including the plants and grass on the street also contribute to the sensory experience of the street. The physical space of the streets represents the largest domain of social activity formed by the community. This dominance is seen to be challenged when the streets are made to serve a single function of being just thoroughfare, instead of the larger role of being an element which fosters the economic and social life of communities.

Streets as a Place

A place is defined by several elements - the physical characteristics of the place, architectural elements of the city, its activities, and how it holds its identity in the minds of the people. The role of a street as a public space is its ability to serve as a 'place'. When a street is attractive enough it can draw a wide range of users to spend time in that place. According to Lynch (1964) the degree to which a space can be perceived and structured in time and spaces by the users supports the function of the place and that which serves the different dimensions of urban design can be called a 'place'. Hence the street serving in a multifunctional role requires a holistic approach of combination of the physical space, with comfort and character, street activities, and how users perceive the street.

Jan Gehl (2010) gives the concepts of understanding these street activities as a necessary components of everyday life, in which we have no choice. Optional activities are recreation, fun and social - those promoting interaction between people and which takes places on a commonplace basis in public spaces. The optional and social activities define the publicness of the street.

When there is harmony between the functions and role of the street- between being a physical space, social space and a public realm- such streets are described by Allan Jacobs (1995) as 'great streets' which facilitates and encourage social encounters.

Theories of public life give an understanding of the importance of public life and give a better insight into the actual use of public spaces and experiences associated with physical setting. This is through empirical knowledge gained from direct observations and activities. Jacobs (2016) argued that bringing people to the street will lead to vitality.

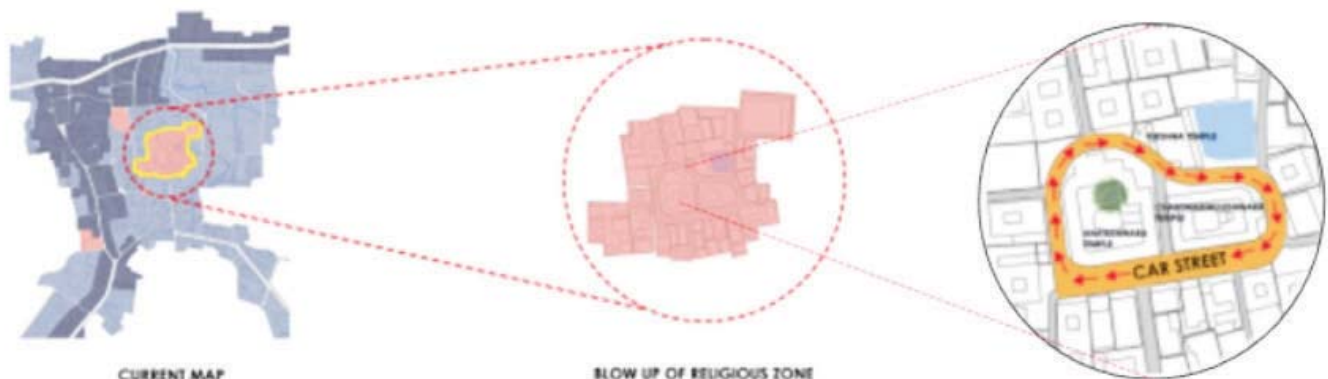


Figure 3 : Location of selected Car Street/ Ratha Beedi at Krishna Math temple complex
(Source: Graphics by students of V22)



Figure 4 : The religious character of Car Street in Udupi during *Paryaya*, fifty years ago
(Source: Graphics by students of V22)



Figure 5: Car Street at Krishna Math temple complex
(Source: Authors)

Hence, effective space design will bolster and enable people's activities. Consequently, we must study existing places and strategize in order to create improved environments for people.

The streets as public spaces beyond the defined requirements of accessibility and connectivity, help make streets a safer city for all ages. Streets as places in the public realm have various characteristics like accessibility, connectivity, safety, comfort, ambience, place-making, human scale, social and optional activities, sensory qualities like sound, smell and sight. These characteristics define the streets as human having/impact of various experiences which makes it a better public space.

In order to study the selected streets at Udupi, a specific list of qualities that can help assess the

selected streets in combination with the theoretical and urban contexts. These may be used as a tool for planning within the local context of Udupi. In order to analyse the physical and qualitative aspects of streets, the physical qualities listed by Allan Jacobs (1995) were combined with the qualities of great streets. This list of parameters has been used to study and analyse streets in the context of Udupi.

Description of the Study Area of Udupi

Udupi, in Karnataka or Kanara lies between the Western Ghats in the east and with a coastline of about 90 miles along the Arabian Sea in the west. The dynasty of Alupas in the 7th century CE, marked the beginning of Udupi's history. Rice, pepper and clove-trading along Kanara's shoreline was governed by them. By the mid-14th century, this region had been

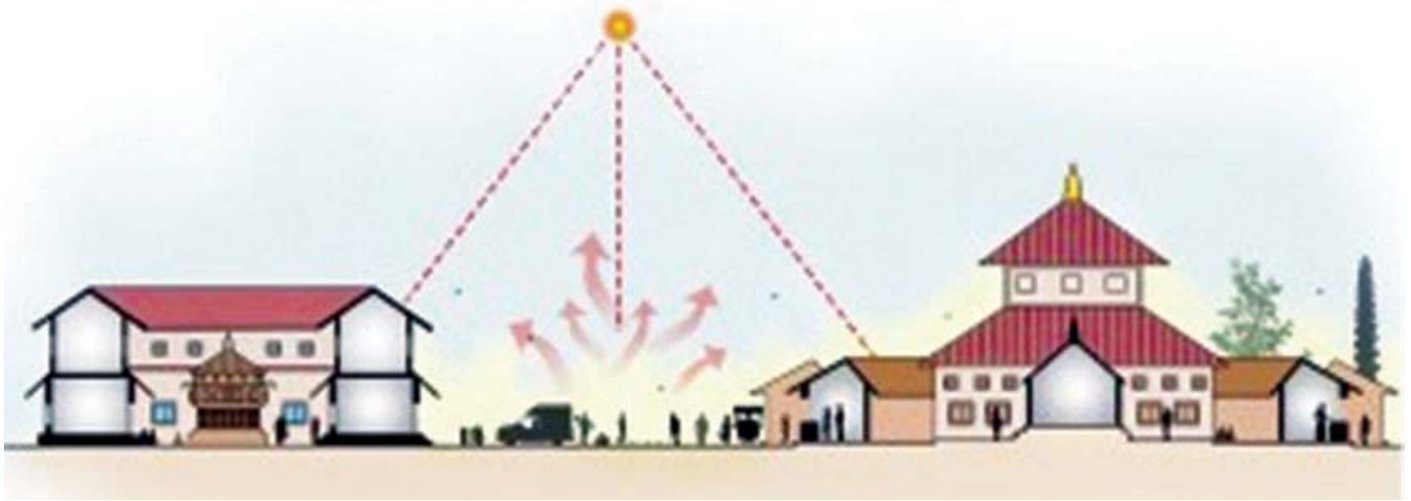


Figure 6 : The Car Street explaining the heat sink due to development
(Source: Graphics by students of V22)

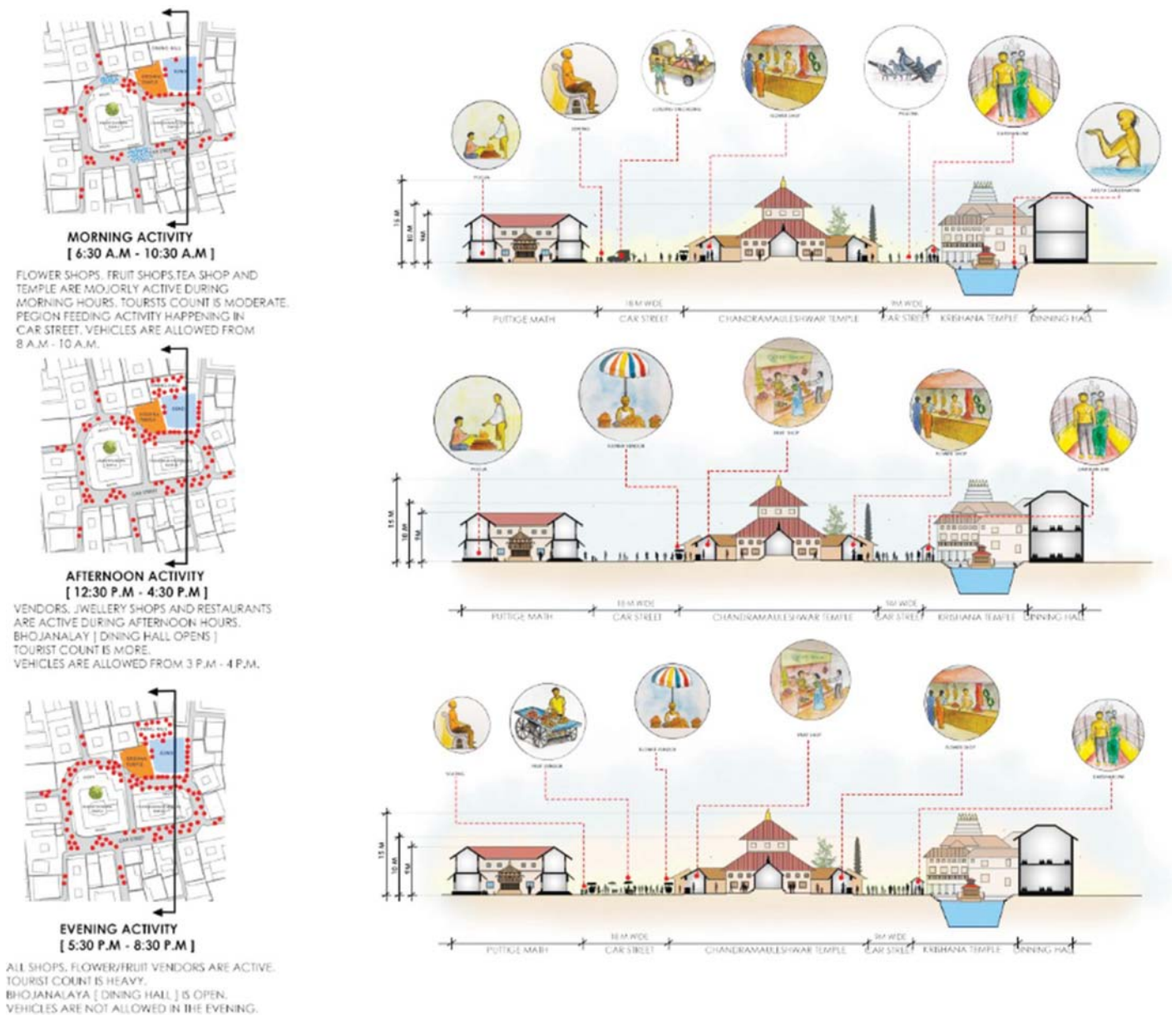


Figure 7 : Activity mapping of Car Street
(Source: Graphics by students of V22)

added to the Vijayanagara dominion, established by the Sangama dynasty. This emphasized the significance of the ports on the Arabian Sea. The natural environment of Kanara's coastlines contributed to the development of trade and, consequently, the region's dense population. Since Tulu is the language of the majority, the region is also known as Tulunadu. However, Konkani, a language unique to the western coast, is also widely spoken. Sri Krishna Matha marks the beginning of Udupi's documented history in the 13th century by the Vaishnavite saint Sri Madhawacharya. Since then, it has developed into a significant Hindu pilgrimage site. Another significant religious landmark in this area is the 8th century Sri Udupi Anantheshwara temple constructed during the Alupa rule. Their kingdom lasted for more than 1200 years and remained influential in this region. In the second half of the 16th century, the Nayakas seized Kanara. Consequently, the construction of the temple and the pond had a big impact on how the city developed. As a result, the history of trade, temple, *maths*, and religion were significant factors in forming the cultural identity of Udupi City.

The role of streets in Udupi is identified through the analysis of the factors of socio-culture, physical environment and economics that are seen to influence the street spaces. The study focuses on

understanding the typology of those streets of Udupi which are public in nature, like religious and commercial streets. The analysis is based on the identification of activities at various intervals during the day. Site surveys and documentation have been carried out, of both, the traditional streets of Udupi and the developed or new streets such as commercial streets which are mostly public in nature.

Study of streets in Udupi

i) Public street- Religious street

Public streets are those which are open to all-residents, the homeless, workers and visitors- and permit the widest range of activities and behaviours within the cultural norms of the place and its people. The businesses, amenities, and other uses on a public street are usually meant to serve both the citizens of the area and its visitors or tourists. Sometimes land-uses in the buildings along the street play a part in determining the publicness of the street.

The religious streets of Udupi define the history and culture of the city. These streets are usually located in the inner core areas surrounded by dense settlements and prominent religious structures like the Udupi Krishna temple. The street defines how the city has evolved over the period of time. The analysis

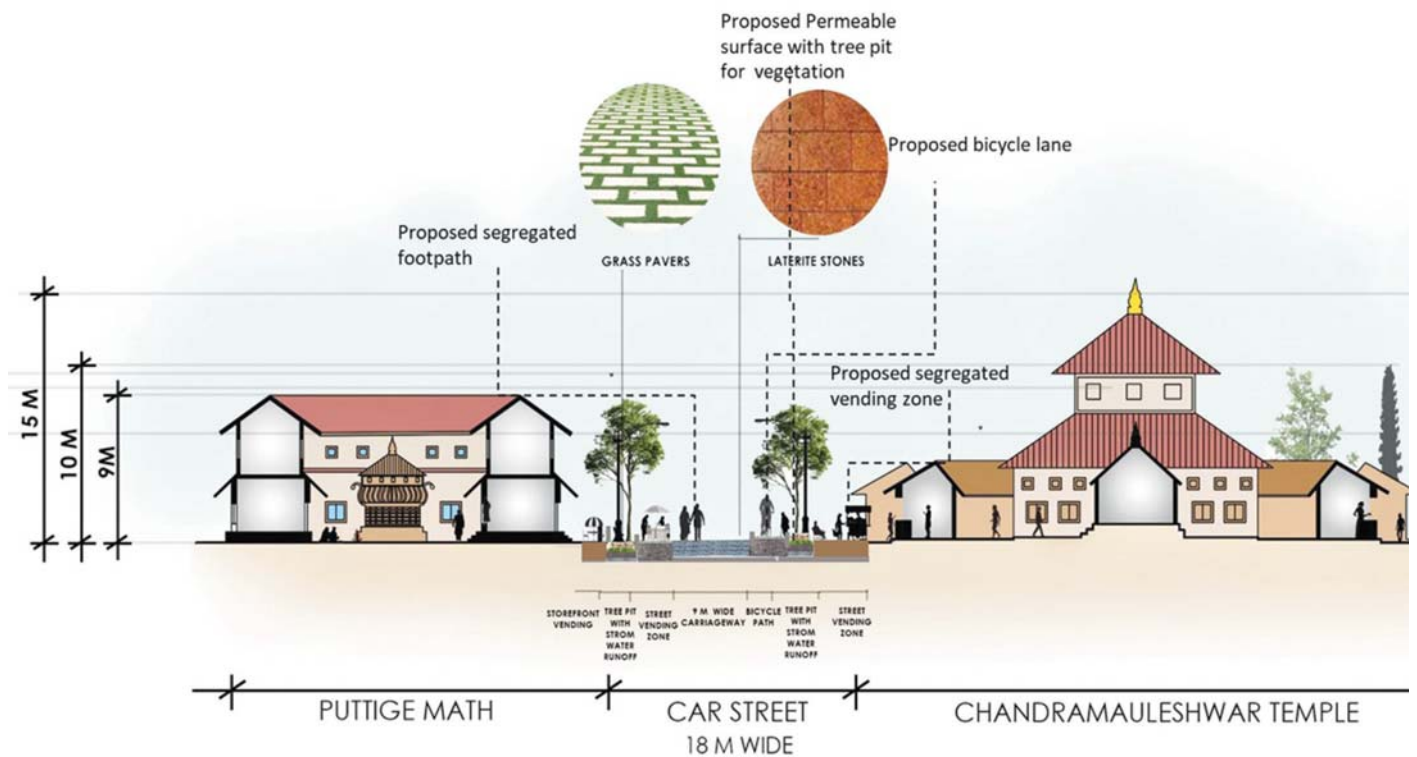


Figure 8 : Proposed street section of car street with green corridor and vegetation to reduce urban heat and having a dedicated vending zone for social encounters
(Source: Author)

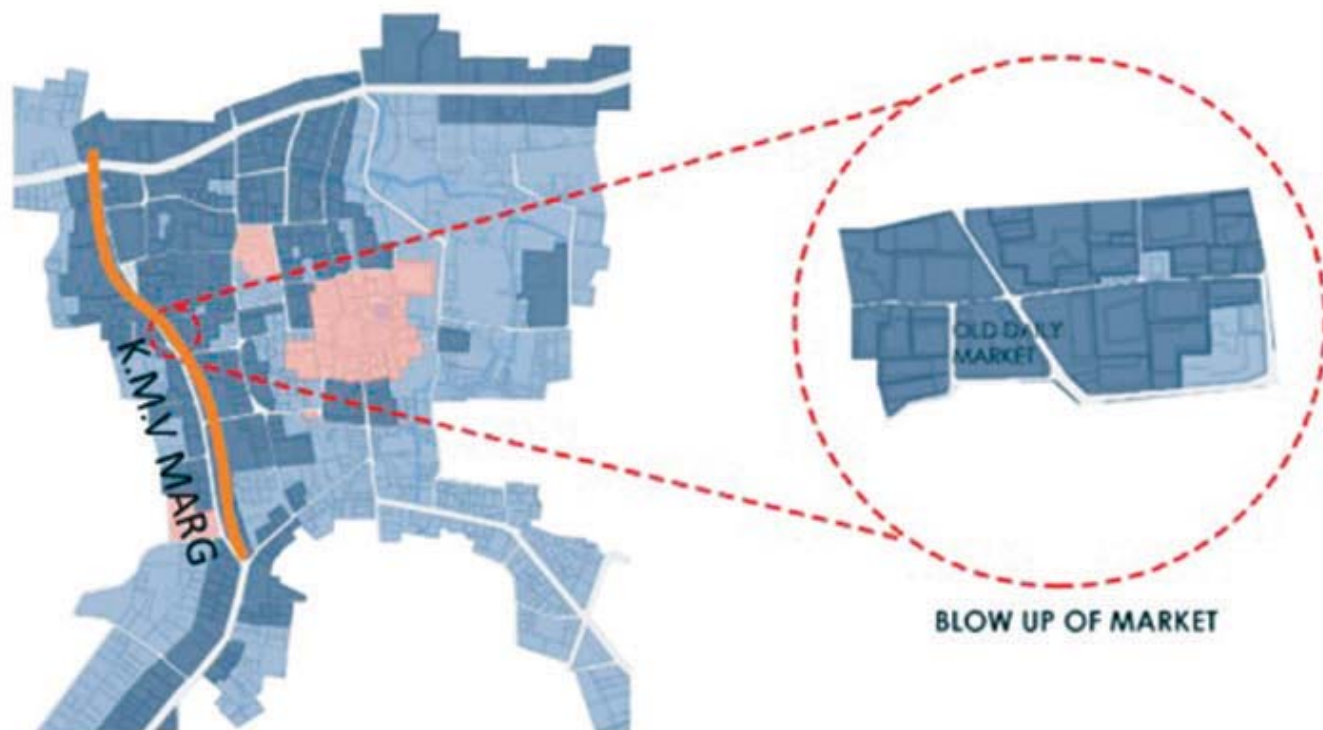


Figure 9: Location of K.M. Marg
(Source: Graphics by students of V22)

of existing conditions will tell us the interaction between the existing built fabric and the activities that are generated due to the temple activities.

ii) The Ratha beedi/ Car street, The Context

The religious street of Udupi brings about myriad cultural, economic, political and social activities around it that link with space and time. This ratha beedi at the Udupi Krishna temple complex both record and determine the history of the Udupi form. The ratha beedi has been a place to congregate, to meet, to celebrate being a part of the community. It's the street of congregation which is accessible and it connects the economic and cultural spaces of Udupi.

iii) The Micro Climate: Comfort and ambience

The microclimate of a street can be affected by many factors, such as the surrounding land use, local topography and vegetation. The material used at the building's edge of its vernacular structures are timber, laterite and Mangalore tiles. These are climate-responsive and depict the architectural character of the coastal region. The asphalt on the street acts as a heat sink. The presence of trees cool the area by providing shade and comfort. The natural elements have probably been lost to recent development of street widening.

iv) Material/construction methodology

The physical appearance of the street represents the typical Konkan coastal architectural style with sloping roofs with locally-available Mangalore tiles, responsive to the natural settings and climate. Extensive use of timber doors, sculptures and intricately carved timber posts give it an aesthetic, regional appeal for the tourists.

v) The Human Scale

The street is approximately about 18 meters (60 feet) in width and is lined with buildings about 12 meters in height. This enables the field of vision for people to stand at one corner and have a general view of what's going on in the street. The width of the street to the ratio of the height of buildings at the edge of the street enables people to recognize people and to see the strangers and the activities happening around them. While walking along the street and experiencing the architectural style of the façades, intricate in variation and detail, gives us a rich experience of the vernacular and the regional setting.

vi) The Activities and Sensory Qualities:

The morning activities represent the everyday activities, like the priest's daily rituals starting from 5:00 am; the flower shops, vegetable-sellers and other vending activities. The unloading of all these



Figure 10 : Activities at K.M. Marg during the afternoon hours.
(Image Credit: Rajat Vernekar, student of V22)

goods from the wholesale market of Udupi takes place in the premises of the Krishna temple complex between 8:00 to 10:00 am. The street is used by both vehicles and pedestrians. The garbage trucks also do the rounds of pickup at this time of the hour. The pigeons and cows also become active at this hour, feeding on the grains and organic waste. Sensory activities like the chanting of mantras or the bhajans fragrance of flowers and the tactility at the edge of the *mathas* of the temple complex initiate the auditory and olfactory senses with variations and detail.

The morning activities represent social activities where in the morning local people visit as a part of their daily ritual to come to be alone, to relax, to reflect and share the spaces and the street furniture with strangers along the street. The optional activities that the street provides are also along its width where people can freely walk during the morning hours, in the religious ambiance calming the mind and the soul. People visit the vegetable market and vendors beside the temple complex and in the street.

The afternoon activities at the car street are vending activities, jewellery shops, and the bhojanalaya [dining hall] of the temple complex opens which

initiates the activities like nearby school kids and the tourists engaging the food activity. The street is closed for vehicles from 10 am to 3 pm and is purely a pedestrian street. This ratha beedi is devoid of vegetation and the scorching heat of the Udupi climate makes it difficult for people to sit and relax during these hours representing a lack of social activity at this hour by the local people. At the same time due to the large influx of tourists, we see a large number of heterogeneous people interacting and exchanging ideas which bring about new meanings for a social space creating more diversity and scope for revitalizing the street. At dusk, activities fostering social interactions reinforce the sense of community, paving the way for a diverse set of activities that are social, economic and religious.

The Car Street designated for vehicles also designates special occasions, such as the *parvaya* ceremony, which takes place biennially at the temple complex. The responsibilities of performing *pooja* and overseeing the administration of Krishna Matha are distributed among the *swamiji* or pontiff of the Astha Matha which was established by the Shri Madhavacharya in accordance with the *Dvaita* philosophy. Each *swamiji* from every *matha* takes turns performing the *pooja* at Udupi Krishna Matha

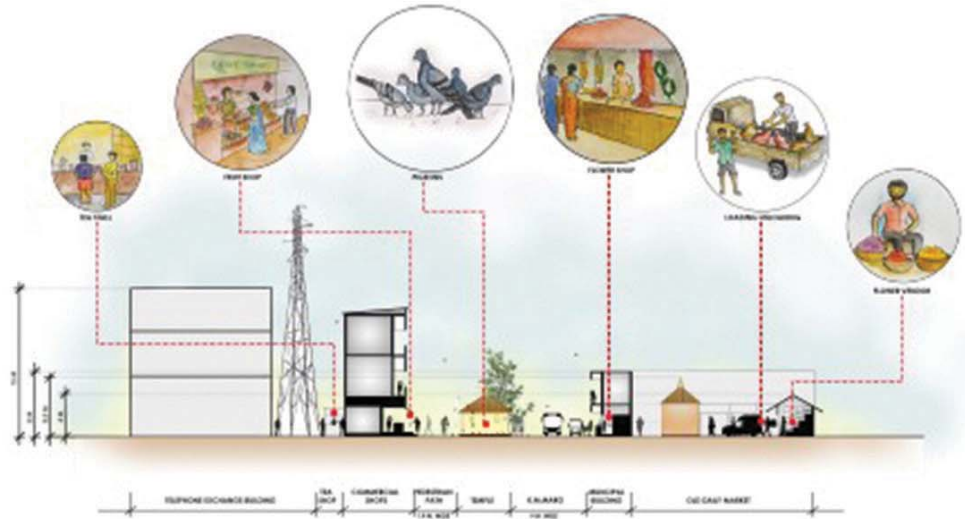


**MORNING ACTIVITY
[6:30 A.M - 9:30 A.M]**

FLOWER SHOPS, FRUIT SHOPS, TEA SHOP AND TEMPLE ARE MAJORLY ACTIVE DURING MORNING HOURS.

REGION FEEDING ACTIVITY IN SPACE BESIDE TEMPLE.

VEHICULAR RUSH IS LESS.

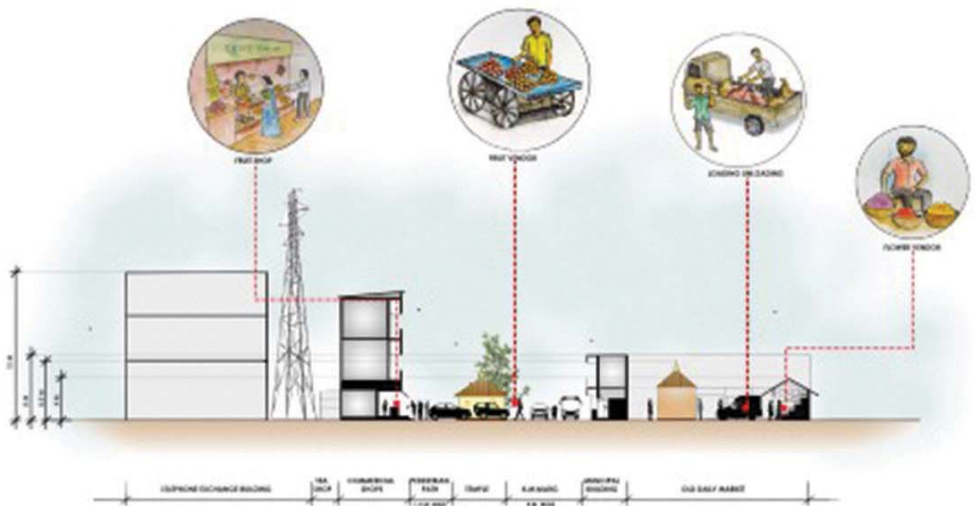


**AFTERNOON ACTIVITY
[12:30 P.M - 4:30 P.M]**

DAILY MARKET AND ALL OTHER SHOPS ARE ACTIVE DURING AFTERNOON HOURS.

SPACE BESIDE TEMPLE IS USED FOR CAR PARKING.

VEHICULAR TRAFFIC IS MODERATE.



**EVENING ACTIVITY
[5:30 P.M - 8:30 P.M]**

DAILY MARKET AND ALL OTHER SHOPS ARE ACTIVE.

FOOD STALLS, CHAAT CENTERS OCCUPY THE PARKING SPACE AND ARE ACTIVE DURING EVENING HOURS.

VEHICULAR TRAFFIC IS HEAVY.

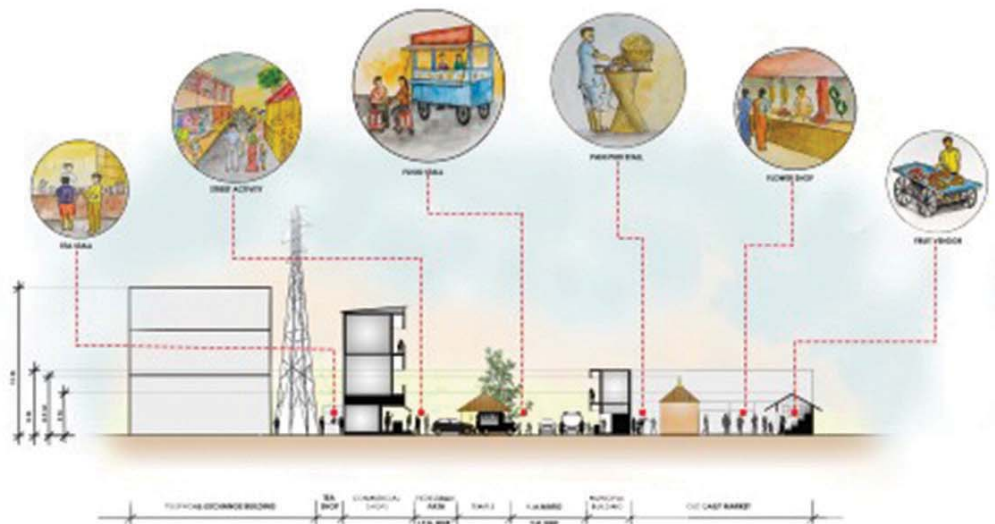


Figure 11: Activity mapping at different times of day at K.M. Marg
(Source: Graphics by students of V22)

Table 1. Aspects of the Public street –Commercial street: Kavi Mudanna Marg [K.M. Marg]
(Source: Compiled by Authors)

Aspect	Street Characteristics
1. Connectivity and Accessibility	K.M. Marg, a commercial street in Udupi, is going through a lot of change as a result of urbanization. As a result, it is losing its unique character and identity. The roadway goes to the Diana Circle with a width that ranges from 9 to 24 m and the height ranges from 12 to 18 m. This roadway links to the Udupi Malpe Road (Highway 169-A). This congested route links the express intra-city bus stop, the KSRTC bus stop and the historic Udupi market. This street is mainly a thoroughfare for connectivity.
2. Material/ construction methodology	K.M. Marg is the typical commercial district. It has undergone significant changes to the facades of built spaces, including the use of asbestos roofing sheets, concrete structures and glass door openings and facades in place of the traditional laterite stone construction with sliding folding ledge style doors. The physical aspect of this roadway has undergone a significant shift. The glass facades of commercial stores have replaced the traditional storefronts that encouraged social interaction in earlier times.
3. The Character of the street	<p>The physical perception of the street's scale is roughly 24 m (80 feet), allowing for the social field of vision. However, because buses and other vehicles dominate this street and travel at speeds between 60 – 100 kmph, we are unable to appreciate the details or observe people. Consequently, over time, sensory experiences have diminished. Many people are walking to the market and bus stop, and hence priority should be given to people rather than vehicles.</p> <p>The idea of a street brings up images of a festive or parade scene during the paryaya, a celebration that occurs every alternate year. Other festivals - civic, cultural and religious, both planned and unplanned, disrupt the city's daily routines and order and replace it with a new pattern of activity and behaviour. In this case, the street is changed into a modern street, where the street primarily serves a practical purpose for vehicles and mobility</p>
4. The Activities and Sensory Qualities	<p>The morning activities in the old market are an important part of everyday life. Every morning, traders and vendors flock to the market, set up their stalls and getting ready for the day ahead. The market is a hub of activity, with people selling a variety of goods, from fresh fruits to vegetables. At the same time, commuters make their way to the nearby bus stand to get to their destinations. With the sun slowly rising in the sky, the market is bustling with activity, providing a lively atmosphere for those passing through.</p> <p>The junction along this stretch is a unique location, as the number of vehicles is relatively low. It is home to a temple, which stands out from its surroundings and has become a memorable landmark. Every morning, pigeons flock to the temple to feast on the grains left for them, and the chants and rituals of religious activity can be heard from the grounds.</p> <p>The temple also serves as a place for social interaction, as people come to relax, read newspapers, and discuss current events. It is a pleasant place for conversation and it is easy to feel the sense of community that has been built around the temple.</p> <p>Vehicles running at 60 to 100 kph on the highways dominate the afternoon activities after 10 am, and as the shops open up and offices open up, there is little opportunity for people to meet and interact.</p> <p>There are also evening activities at the same junction of the Devi temple along the K.V Marg which go from religious activities to food vending activities where people again congregate. Therefore, this space has been converted from a religious space to a food space where different food activities take place.</p>

Conclusion

Indian cities are known for their diverse culture and traditions. At the planning level there is a need to understand the multiple scales at which the cities respond to their image, identity and existing physical environment. For a successful public space catering to the people of the city, it is essential to understand the progression of scales from city to neighbourhood to the street itself while letting on-ground perceptions and observations govern how they exist. The study carried out at various scales and with different parameters showed us how different the streets of Udupi City have evolved, adapted, and responded to the changing culture, lifestyles and development. For a city that is undergoing rapid change and development, there is a need for better planning and design within the city that adapts to the local physical, socio-economic, and ecological context to develop proposals and guidelines that are deeply rooted within the context of the city to enhance urban identity and image.

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Decline in Folk Instruments of Western Rajasthan

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Abstract

Rajasthan's deserts have been known for various types of instruments of folk music. However, these have not been able to attain widespread recognition or appeal. The purpose of this research is to learn about the current situation of Rajasthani folk musical instruments and the factors that have contributed to their decline. It delves into the probable causes, including material issues, making processes and socio-economic concerns. The concerns have been researched through various websites, articles, interviews and reports.

This study shows the main causes for the decline in production and propagation of folk instruments which include the lack of material availability, socio-economic causes and lack of dissemination of traditional arts and crafts. The paper also looks at organizations which share these concerns, such as NGOs like the Jaipur Virasat Foundation, UNESCO, etc. that are working towards safeguarding this part of Rajasthani culture and suggests ways in which it can be perpetuated, unbroken, to future generations.

Key words: Folk; Instruments; Music; Rajasthan, Culture.

Introduction

Indian folk music, particularly Rajasthani music, is a kind of music that has been passed down for centuries and ingrained in rural India's culture. These songs have no known origins, yet they are practiced and sung as part of people's traditions (Mathur, 2017).

The state of Rajasthan shares its borders with Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and Gujarat. The culture and legacy have been profoundly influenced by these geographical factors. This is especially true in the case of Rajasthani music, many of the surviving Rajasthani music tribes' integral to Rajasthan's indigenous folk music, come from these borderlands. The contribution is extensive and varied, resulting in deep and heartfelt music (Singh, 2021).

The word 'folk music' conjures up images of Rajasthani folk melodies. Rajasthani folk music is well-known and well-liked throughout the world. It is, however, differentiated by the musical instruments accompanying it (Mathur, 2017). Folk music is a significant aspect of Rajasthani culture. Its lyrics talk about bravery, patriotism, romance, customs, spirituality, or even day-to-day life (Arnav, 2018).

The younger generation is being attracted by a more metropolitan and western lifestyle. There is fear that traditional folk music will be lost. The patron families of desert communities, many of whom are involved in agricultural activities, are moving away from their land in search of fresh prospects in centres of commerce. The musicians are being forced to leave their rural homes in search of work in cities, where they can work as labourers or truck drivers. These days fewer people know how to build instruments, working as a regular carpenter seems much more promising (Beban, 2017).

Aims and Objectives:

Rajasthani folk music is a significant part of their culture, and it is intimately associated with village life. Traditional folk music is at the brink of being lost and thus losing an essential part of the Rajasthani culture. The paper aims to understand the reasons associated with material, propagation and social economic concerns for the decline of folk music of western Rajasthan.

The objectives of the research proposal are as follows:

- i) To understand the current state of Rajasthani folk music and instruments.
- ii) To understand the reasons for the current situation of Rajasthani folk music and instruments.
- iii) To understand the role of materials and the processes used to make Rajasthani folk music instruments.
- iv) To investigate the impact of various factors leading to a decline in the production of materials used in Rajasthani folk music instruments.
- v) To study existing government policies for the preservation and propagation of traditional arts and crafts of Rajasthan.

The above objectives would help in understanding the reasons for the decline in folk music/instruments of western Rajasthan.

Material and Methods

Methodology:

The methodology adopted for achieving the objectives of the study were as follows:

- a) News articles and interviews that discuss the current situation of Rajasthani folk instruments of music
- b) Websites and documents by government and cultural bodies to understand the role of materials and the processes for the making of Rajasthani folk instruments.

- c) The current availability of material and applicable laws on their usage was studied through various government websites.

Literature Review:

To understand the underlying causes for the decline in folk musical instruments of western Rajasthan, data has been analysed from various sources such as newspaper articles, reports, interviews, government policies and cultural websites.

The Jaipur Virasat Foundation encourages and preserves Rajasthan's creative traditions, arts, crafts and knowledge to create an inclusive, diverse, and sustainable economy. Rajasthan Rural Arts Program (RRAP) is Jaipur Virasat Foundation's initiative that links and preserves the continuity and relevance of Rajasthan's folk music even upto the modernism of the twenty-first century, by spanning the break between the earlier and newer traditions and innovations (Jaipur Virasat Foundation, n.d.). Interviews with several folk artistes and maestri of particular instruments show the decline in interest and propagation of folk music of Rajasthan. The interviews highlight the likely causes of the drop, which are further examined in the findings.

Natural materials, which were typically readily available in earlier times, were used to make the majority of folk instruments. Animal-based materials such as animal skin, gut strings, and leather, as well as earth-based materials such as wood, clay, metal, and fruit shells, were used to build the instruments. The instruments' bodies were made up of wood and fruit shells, with the tops of the instruments covered in animal hide (CCRT India, n.d.; Rajras, n.d.). The unique sound of Rajasthani folk instruments can be attributed to the nature of these materials (Rajras, n.d.). Various conservation initiatives coupled with the lack of availability of materials due to various conservation policies, degeneration in craftsmanship and knowledge of processing these materials, has been discussed with Shri Dodha Khan and Shri Lakha Khan.

There have been initiatives to promote Rajasthani folk music both domestically and internationally. Some of the policies that were studied were Shilpgram Policy by Ministry of Culture, Training and preservation of traditional, folk, and tribal performing arts policy by Sangeet Natak Akademi (SNA) and cultural tourism policy by Rajasthan Tourism Department. These are a few of the policies introduced by the government and cultural bodies for artists. These helped to understand how the creative and cultural legacy of the country/state can be protected and propagated.

The above research material is essential to understand the position of folk instruments, economically, socially and culturally.

Findings

Instruments of Folk Music of Western Rajasthan

Indian folk music especially Rajasthani music is a genre of music that has been transmitted through generations verbally and imbibed in the culture of rural Rajasthan. Rajasthan happens to be one of the most prosperous states in the country in terms of arts and crafts. Historically, royalty and nobility patronized the arts and crafts and encouraged craftsmen skilled in wood and marble carving, weaving, pottery and painting (Umaid Bhavan, n.d.).

Rajasthani folk music is well-known but what makes it unique are its musical instruments. They encompass Rajasthan's diversity of communities: *mirasis*, *jogis*, *manganiya*, *langas*, *kanjars*, *banjaras* and *dholies*. They are famous for their performances of *kuchamani khayal*, *maach*, *tamasha*, *rammat*, *nautanki* and *raasleela* (Mathur, 2017). The performances are invariably accompanied by indigenous musical instruments. The instruments are local to different districts and communities of Rajasthan (Fig. 1). The knowledge of these instruments is specific to communities that often specialize in a single instrument.

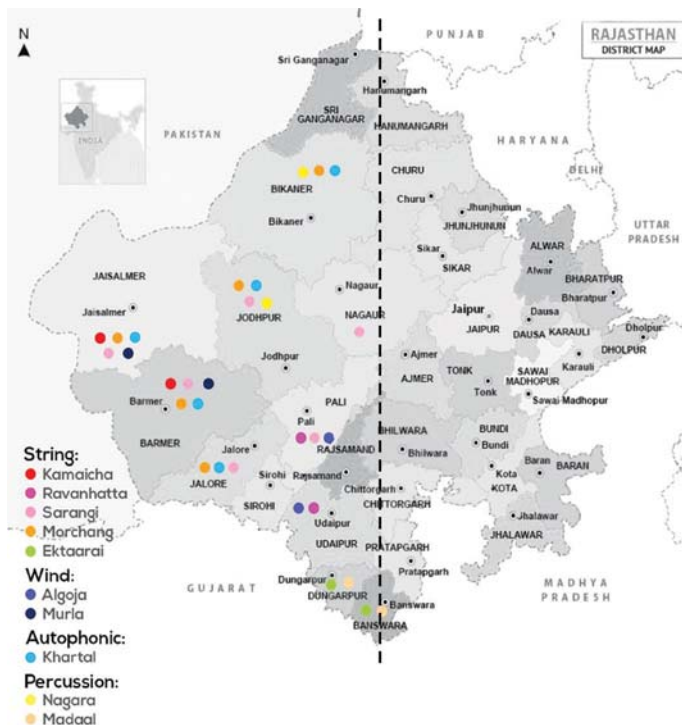


Fig. 1: Local instruments in different districts and communities of Rajasthan

Source: Compiled by Authors

i) *Types of Instruments*

Instruments are of four basic types: string, wind, autophonic, and percussion

a) *String Instruments*

String instruments are usually made of wood, bamboo, or some kind of hard shell, with animal hairs serving as strings and animal skins serving as covers. The *kamaicha* (Fig. 2a) is a bowed lute played by the *manganiyars* of west Rajasthan. A single piece of matured mango wood is used to carve out the *kamaicha's* base, which is subsequently honed and smoothed by a craftsman using specialised equipment. The spherical bowl narrows into a neck and fingerboard, while the leather-covered resonator continues into the wooden upper portion. The most basic *kamaicha* has twelve strings, while the most sophisticated *kamaicha* has up to 17 strings (CCRT India, n.d.).

The *ravanhatta* (Fig. 2b) is a folk instrument associated largely with the nomadic lifestyle of the Thar Desert. It's a simple string instrument built of locally accessible materials like bamboo, metal pipes and strings, coconut shell, leather, and horsehair. In terms of technique, playing a *ravanhatta* is similar to playing the violin. The basic structure of the instrument is an 80-90cm bamboo stem with a half-coconut shell connected to the end. Goat hide is used to make the shell more vibration-proof. The stem is perforated at regular intervals to secure the knobs, which will be used to fine-tune the music as required. The smoothed hair from the horsetail contributes to its distinct tone (Aathun, n.d.).

The *sarangi* (Fig. 2c) is shaped out of a single piece of wood that has been hollowed out, chiselled, and sculpted, is typically 60-75 cm long. Wood from the *tun* or mango or teak trees is well seasoned for at least a year before its making. The front of the belly is made hollow, while the neck and the head are hollowed out from its back (Kasliwal, 2001).

The *morchang* (Fig. 2d) is a small iron instrument that consists of a horseshoe-shaped metal ring with two parallel forks acting as the frame, and a metal tongue in the middle. It is played with the string plucked close to the mouth which results in a range of sounds. It's made of metals such as iron, brass, copper, and silver (Aathun, n.d.). The *ektaara* (Fig. 2e) is a single-stringed instrument, fixed upon the belly of a gourd and attached to a bamboo body (Rajras, n.d.).

b) *Wind Instruments*

Hollowed-out wood or bamboo or a combination of woods is used to make wind instruments. The *murla* (Fig. 3a), also known as *poongi*, is a tiny gourd instrument having a blowing hole at the top and two pipes attached at the bottom. The gourd acts as an air chamber for the reeds, similar to how bagpipes operate. Good intonation requires some practice and just the correct amount of air pressure (India Instruments, n.d.). The *algoja* (Fig. 3b) is a flute made of a pair of equal-sized bamboos, beaked flutes. Each flute has five finger holes and a fipple hole. Both flutes are played simultaneously (Indian Culture, n.d.).

c) *Autophonic Instruments*

The *khartal* (Fig. 4) consists of two flat, rectangular sheets held in one hand. The planks are usually 20–30 cm long and 5–7 cm wide. They are not identical; one sheet is slightly bigger than the other to enhance the percussive sound produced. The two planks are brought together by a variety of hand movements to produce a wide range of rhythmic sounds. Originally made of rosewood and ebony, these wooden ‘clappers’ are now fashioned of maple, *paduak*, black locust, teak or other hardwoods or even metal (Aathun, n.d.; Khartal, n.d.).

d) *Percussion Instruments*

The round bowl-shaped body for these instruments might be made of metal, clay, or iron and commonly covered in buffalo or camel leather (CCRT India, n.d.; Rajras, n.d.). One such instrument is the *nagara* (Fig 5a), a huge spherical drum made of metal or clay about 60–90 cm in diameter, covered with hide and beaten by sticks (Magic Tune, n.d.). The *dholak* or the *madaal* (Fig. 5b) is a twin-faced traditional Rajasthani drum. Its smaller surface, is made of goat skin which is conducive for sharp notes, while the larger one is made of buffalo skin which is advantageous for low pitches. Wood of the *sheesham* tree is sometimes used for the shell. However, cheaper alternatives are other woods like mango (Indian Culture, n.d.).

ii) *Material Used in the Musical Instruments*

The instruments are mostly made from a range of naturally occurring materials. The fact that several districts have their instruments (as seen in Fig. 1) is due to their location and the availability of materials in that area. The types of instruments and their contents are discussed below.

a) *Animal-Based Materials*

The materials necessary to create the instruments are still available however the quality is not vouched

for. The only animal-derived commodity still widely used in the manufacture of musical instruments is gut strings. Even gut strings, which are most typically found on high-end tennis rackets, violins, guitars and other stringed instruments, can be simply replaced with synthetics such as nylon or steel (PETA India, n.d.; Marshall, 2014).

Previously, hide skins of goats, cows and buffalo were ordinarily used to make the heads of drums and traditional bagpipes. Most drumheads nowadays are constructed of synthetic materials (PETA India, n.d.; Meenakshi S., 2014). Horsehair is acquired from manes and tails of horses, with lengths ranging from 20 to 90 cm and dark in colour. The strings of instrument bows are made of high-quality white horsehair (Britannica, 1998).

b) *Earth-Based Materials*

Earth-based materials like timber, bamboo, clay, and fruit shells contribute significantly to the making of various folk instruments. Bamboo is a widely-used material for making musical instruments, whether stringed or percussion or wind instruments (Cottingham, 2014), which are summarised in Table 1.

Wood was one of the limited choices accessible to instrument builders before the industrial revolution. The characteristic of timber is its biggest strength; acrylic is much less resonant than most woods, and aluminium is much more resonant (Waltham and Yoshikawa, 2018). The majority of the wood that is grown and used for products, is being exported to other countries. Timber species, likely to be sourced from Indian agroforestry plantations are listed on the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES) which imposes limitations and regulations on its usage (Norman and Canby, 2020).

Causes for the Decline/ Issues for Propagation of Folk Music Instruments

This study shows three of the main causes for the decline in production and propagation of folk instruments that are due to lack of material availability, socio-economic causes and lack of dissemination of traditional arts and crafts.

i) *Material Causes*

a) *Parchment* : Animal hide used in instruments was usually in the form of drumheads or coverings, traditionally made from animal skins of sheep, goats and cows (PETA India, n.d.). These animal raw hides, when used in instruments, caused a tuned-up pitch

Fig. 2 : String Instruments



Fig. 2a: Kamaicha
Source: Nadsadhna 2021

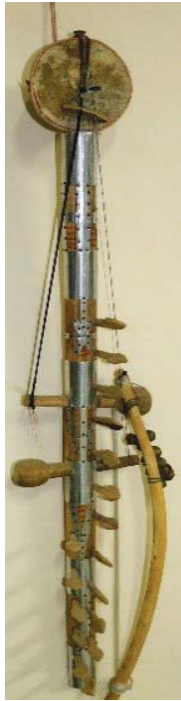


Fig. 2b: Ravanhatta
Source: Nadsadhna 2021



Fig. 2c: Sarangi
Source: The MET 2021



Fig. 2d: Morchang
Source: Nadsadhna 2021



Fig. 2e: Ektaara
Source: Nadsadhna 2021



Fig. 3a: Murla
Source: Rajras 2021



Fig. 3b: Algoja
Source: The Hindu 2021
Fig. 3 : Wind Instruments



Fig. 4: Autophonic Instruments : Khartal
Source: Khartal 2021



Fig. 5a: Nagara
Source: Nadsadhna 2021



Fig. 5b: Madaal
Source: Madaal 2021

Fig. 5: Percussion Instruments

which would sometimes split, if the climate was too hot and dry. To prevent this and to preserve the instrument's head, it had to be loosened after playing along with its careful maintenance. Due to the difficulty in sourcing better quality animal hides, playing on the various inferior types of animal rawhide skins caused the players' hands to pain while striking to achieve the correct tonal quality. (Remo, n.d.). Nowadays, most of the percussion instrument membranes are seen to be made from synthetic materials developed by numerous institutions (PETA India, n.d.).

b) Goat Gut Strings : The only animal-derived commodity still widely employed in the production of musical instruments is natural gut strings made from the intestinal lining of sheep and cattle. They exploit the ability of the intestine lining to expand and contract during digestion. Pure gut strings are often found on high-end violins along with other stringed instruments due to their warm and attractive sound. However, they take a long time to stabilise, lose their pitch readily, and break easily, are very expensive and have a short life span. Today they are easily replaced by synthetics such as nylon or steel. Winding gut strings with silver or aluminium extends their life and improves their pitch-keeping abilities while still enabling the enticing gut features to shine through (PETA India, n.d.).

c) Wood : Wood was certainly one of the few options accessible to builders before the industrial revolution, but despite intensive study into substitutes over the last century or so, it shows no signs of being phased out (Waltham and Yoshikawa, 2018). Experts and highly-trained musicians know that using the proper wood for the right instrument produces the best sound (Global Wood Source, 2015).

Sheesham and teak are woods favoured for musical instruments since they produce the required *nadam* or sound. It was found that finest *sheesham* comes from Rajasthani villages (Nandini and Lalitha, 2018). However, today *sheesham* can be sourced from Indian agroforestry plantations, it is on the list of potentially high-risk timbers by CITES, despite India requesting their removal from the listings in 2019 (Norman and Canby, 2020). Climate change has impacted the quality of wood and, as a result, the sound of instruments made from it. The majority of the wood plantations have been acquired by private enterprises, and the wood is thus used to create various products such as furniture, paper, tools, and so on.

ii) Socio-Economic Causes

Rajasthani folk instruments are perceived to be harder to learn than western or classical instruments and require time and effort. This is because these instruments are not taught through books or any documented material; rather, one learns to play them by seeing and hearing them and being taught by a maestro-teacher. Not only artistes, but also the families who traditionally patronized the arts and crafts are fleeing their desert villages for urban economic opportunities. Some musicians have adapted to these changes, performing for tourists in hotels, touring internationally to festivals around the world. Others have been forced to work as labourers or truck drivers, among other vocations (Beban, 2017).

iii) Lack of Dissemination of Traditional Arts and Crafts

Instrument players interviewed by the author have revealed the various issues faced by the artistes and craftsperson's. Folk artists from Kanoi, Jaisalmer, are employed as performers for a maximum of six months. During the remaining part of the year, some travel to different places to perform, work in other fields to supplement their income, while the rest stay at home to practice their art. In addition, artistes talking in the media have voiced further concerns.

Dodha Khan, folk singer and *algoja* player from Jaipur, Rajasthan interviewed by Tripathy (2019) had received his first musical instrument from his grandfather. The production of the *algoja* instrument is rare today, as are its proponents. The craftsmen who make the instruments are a few carpenters who make it as per demand and are unsure of its tuning. The accompanying lack of willingness to learn the instrument has impacted its sale and manufacture.

The *kamaicha*, performed by the Langa and the Manganiar communities in western Rajasthan, is another instrument with a bleak future. The vice-president of the *Society for Traditional Art and Rural Culture* (STARC), Den Mohammad, stated, "To play the instrument, one must undergo 3-4 years of intensive training. There is little government support available to encourage young people to learn these instruments. The producers of these instruments have likewise vanished as a result of the lack of demand." Padma Shri Sakar Khan of Jaisalmer and his son Chewar Khan are trying to carry on the legacy of the *kamaicha*, but new players are few (Tripathy, 2019). Similarly, sarangi legend Lakha Khan points out that the younger generation prefers a simpler instrument to master. He points out several reasons for this which include distraction due to other stimuli and peer influence towards other musical preferences (Khan, 2014).

It is seen therefore that just as there is an increasing dearth in the number of teachers, there is also a reduction in the number of learners who prefer easier, more regular and lucrative sources of income. This is true not only for the performing art but also in the craft of making the musical instruments. The various issues faced by the artistes are summarized in Fig 6.

Conclusion

In order to understand the reasons associated with the decline of folk music of western Rajasthan, this study went through the process of secondary research besides talking directly to the proponents of these arts. The study elaborated the reasons related to the decline of folk instruments with respect to material availability, socio-economic standing and the lack of propagation of traditional arts and crafts.

Though there can be no single or objective solution to these issues, several organizations, both governmental and non-governmental have made efforts to preserve and propagate the arts in various ways. Initiatives like the Jaipur Virasat Foundation’s *Rajasthan Rural Arts Programme (RRAP)* aims to support and promote traditional Rajasthani culture and is working towards this goal by conducting various events and exhibitions.

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) recently partnered with the Rajasthan government to preserve and resuscitate the state’s dwindling musical, artistic, and craft traditions, as well as other intangible cultural treasures (Tripathy, 2019).

Along with these programmes, governmental policies have also tried to safeguard the tradition. The *Shilpgram Policy* was established to protect the member states of the Western Zone’s artistic, cultural, and tribal legacy, with craftsmen and the tourism department as key beneficiaries (Ministry of Culture, 2020). According to the *Training and Preservation of Traditional, Folk & Tribal Performing Arts Policy*, benefits will be issued to various craftspersons. For consistent achievement of an individual, of a high professional order, the *Akademi Puraskar* may be bestowed on prominent practitioners and scholars and teachers of music, theatre and dance (Sangeet Natak Akademi, n.d.). The *Cultural Tourism Policy* states that in rural areas, heritage hotels will be promoted as sites for performing and visual arts events. Villages with rich cultural traditions of performing arts will be identified and promoted as destinations for local festivals (Rajasthan Tourism Department, 2020).

There have been attempts to protect the culture through various architectural interventions. RRAP currently operates out of an old repurposed house that displays traditional Rajasthani folk instruments, the numerous tribes affiliated with folk music in Rajasthan and traditional and local arts and crafts products. Indian music experience (IME) in Bangalore focuses on classical music from all over India, intending to preserve the legacy of Indian music. Similarly, Rock-n-Roll hall of Fame in Cleveland, Ohio is a museum paying homage to rock n roll and houses instruments, memorabilia, costumes, etc. Folk instruments form an intangible part of the history and culture of Rajasthan and thus needs to be similarly looked after for future generations.

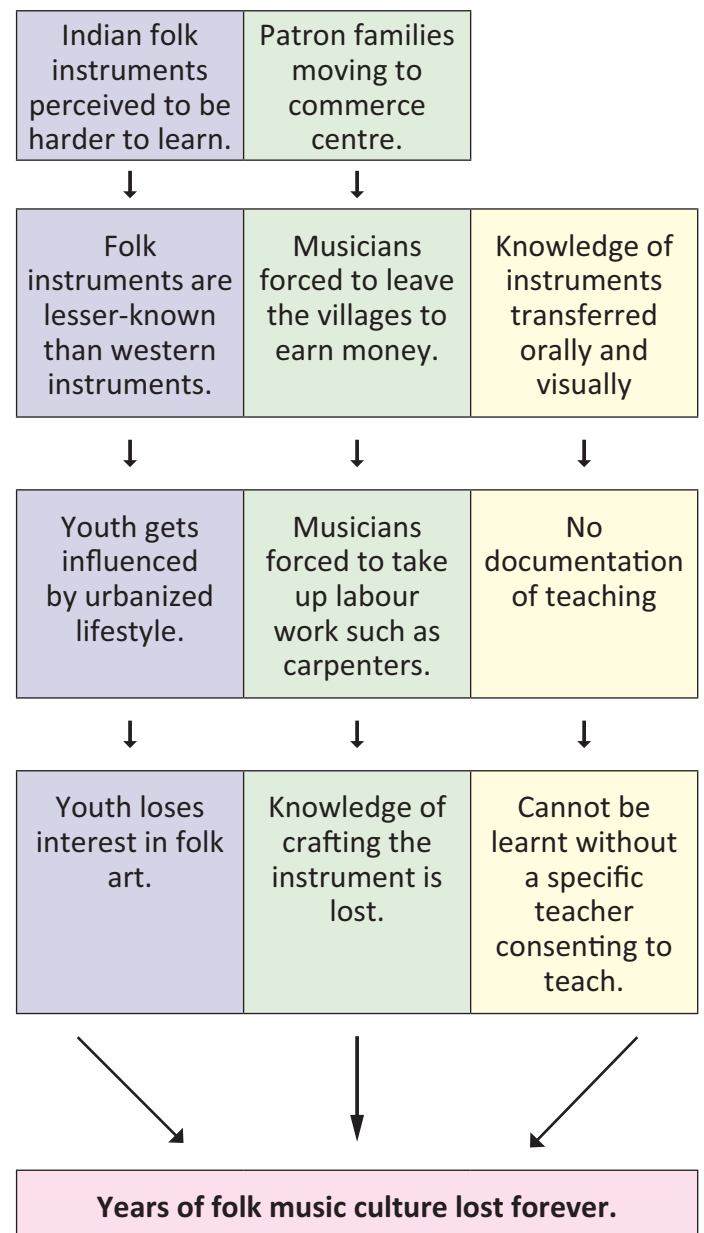


Figure 6 : Flow chart highlighting the Issues faced by Folk Musicians
 Source: Adapted by Author

Table 1 : Summary of Type of Instruments and the Materials they are made of
Source: Compiled by Authors

Type of Instrument	Name of Instrument	Material								
		Animal-based				Plant-based		Earth-based		
		Parchment	Gut-string	Horse-hair	Leather	Wood	Bamboo	Gourd/Coconut Shell	Metal	Clay
String (5)	Kamaicha	✓	✓ (goat)	✓	✓ (goat)	✓ (mango, khejari, sheesham)	NA	NA	✓ (steel)	NA
	Ravanhatta	NA	✓	✓	✓ (goat)	✓	✓	✓	✓ (steel)	NA
	Sarangi	✓	✓ (goat)	NA	✓	✓ (mango, tun, teak)	NA	NA	✓ (steel)	NA
	Morchang	NA	NA	NA	NA	NA	NA	NA	✓ (iron, brass, copper, silver)	NA
	Ektaara	✓	NA	NA	NA	NA	✓	NA	✓ (steel)	NA
Wind (2)	Murla	NA	NA	NA	NA	NA	NA	✓	NA	NA
	Algoja	NA	NA	NA	NA	NA	✓	NA	NA	NA
Autophonic (1)	Khartal	NA	NA	NA	NA	✓ (sheesham, teak)	NA	NA	NA	NA
Percussion (2)	Nagaras	NA	NA	NA	✓ (goat, camel)	NA	NA	NA	✓ (iron)	✓
	Madaal/Dholak	NA	NA	NA	✓ (goat)	✓ (sheesham, mango)	NA	NA	NA	✓

Legend

Materials that are difficult to obtain Easily available materials

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SANCTUARY OF TRUTH, THAILAND

Ar. Ketki Salodkar



Fig. 1: The first glimpse of wooden castle from the entrance.

Thailand, a spectacular island country, is not only known for its breath taking beaches and colourful nightlife, but also for its rich culture. Tourism is the country's biggest and most important driver of economy. Our visit to Thailand had the Sanctuary of Truth as the first one on our itinerary. On reaching Pattaya, we went to this architectural marvel, which is a humongous wooden castle. A few facts and glimpses from the visit are showcased here.

The Sanctuary of Truth is an unfinished museum, designed by Thai businessman Khun Lek Viriyaphan and is built at Laem Ratchawet, Na Kluea sub district, in the Chonburi province of Thailand. At first sight, a hybrid of temple and castle, it looks similar to Thai architecture, but as we observed closely, it is inspired by four different arts and philosophies of Thailand, Cambodia, China and India. The site is situated adjacent to the beach giving this structure a picturesque backdrop. Erection of this building, which is entirely in wood, had started in 1981 and is still under construction. Except for the concrete foundation, even metal nails are not used in its construction that is located on 13 hectares of land. The entire structure stands on 170 columns made from solid wood with two main entrances at the front and back.



Fig. 2: Four-faced Brahma

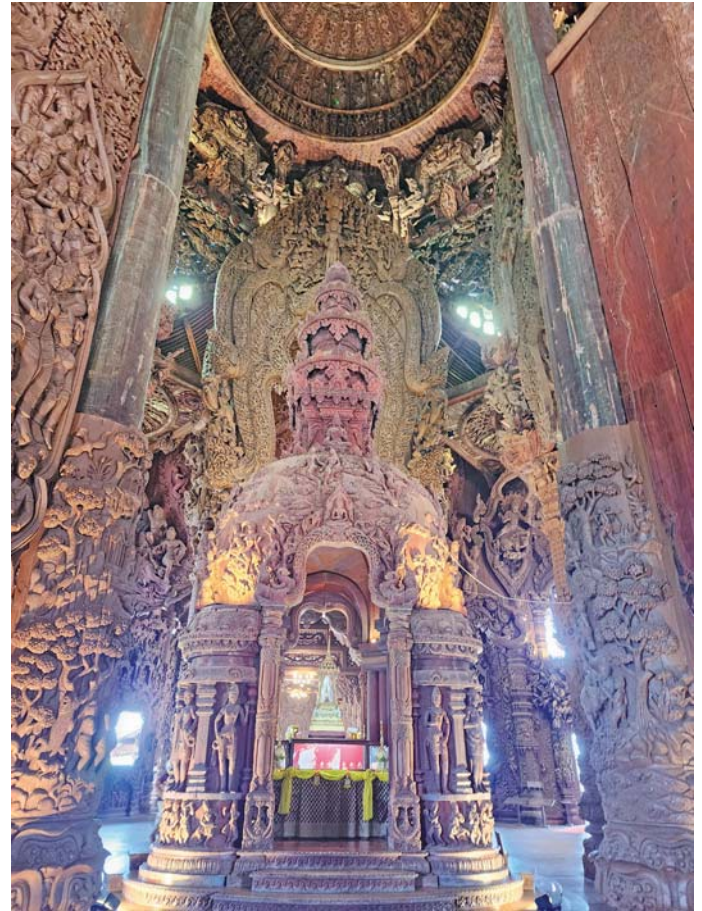


Fig. 3: The central hall with wooden throne.



Fig. 4: Tallest spire reaching 30m.



Fig. 5: Decorated with ornamentation from different traditions.

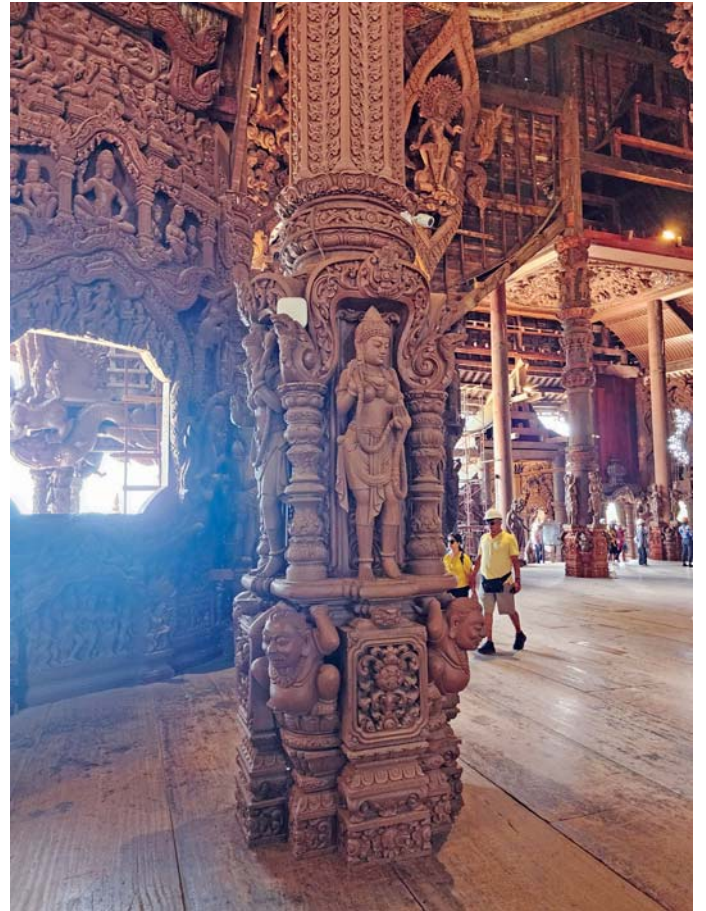


Fig. 7: Wood carved idols and sculptures.



Fig. 6: Intrinsic detailing with profound significance.

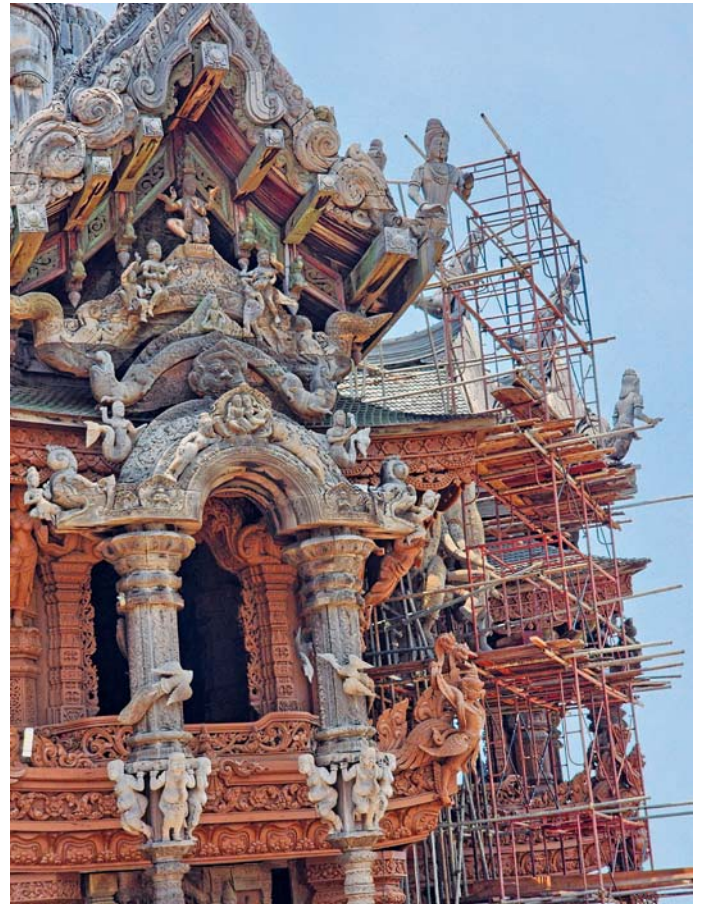


Fig. 8: Under constant maintenance and construction.



Fig. 9: Traditional Thai wood-carving techniques.

The first sculpture to be noticed is the huge four-faced Brahma (Hindu deity) that symbolizes “ruler’s morals”. It projects the four universal virtues to be followed that are:

1. Metta: Loving
2. Karuna: Compassion
3. Mudita: Empathetic joy
4. Upekkha: equanimity.

Without them, it’s not possible to keep the land prosperous and auspicious.

The complex is divided into five different halls namely:

1. Western hall (W): It is called “The Origin”. The four essential elements for creation of earth are wind, fire, water and soil.
2. Southern hall (S): This hall is all about parental love, which tells about the creators-mother and father, and their pure love.
3. Northern hall (N): The story of Bodhisattvas is mentioned which proposes to teach human happiness through sharing without reward.
4. Eastern hall (E): Symbolizes the family as an institution. It represents love and sympathy, which must start among family in order to



Fig. 10: Workshop in the campus.

enable the humankind to live meaningfully along with the sharing of pure love and mercy.

5. Central hall (CT): It features a magnificent wooden throne with no figures of the celestial; portraying liberation that is the eternal truth and united in the centre of the universe.

Thus, the major intention was to urge the people to realize the “Truth of Life” and teach people to imbibe the Buddhist teachings so that we can achieve peace around the world.

Photo credits: Ar. Krishna Kumar and Author



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LOST HOUSES : A LEGACY OF BENGAL

Documentation of Houses along the Course of the River Hooghly

Dr. Kalyan Kumar Mukherjee

INTRODUCTION

Bengal has a rich architectural history, though not completely original in its style, resulting from various influences across many centuries. The blended style that developed in the late 19th and early 20th century came to be referred to as the Indo-Saracenic style. Most of the houses or public buildings were built in this style but with the major influence from the rulers of that region and the craftsmen. This style was an amalgamation of the traditional BANGALI STYLE and the EUROPEAN STYLE OF ARCHITECTURE, often referred to as “Bengali Baroque”. The dominating style differed from building to building based on the regions and its rulers. These houses represent a

wide range of architectural marvels where various styles across the world came together to create a completely different style of classical architecture, while preserving certain traditional features as well.

This evolution in style could however be seen mainly in ‘Zamindar Baris’ or rather in the affluent Bengali households as they could afford the foreign artisans who influenced their style thereby. We documented quite a few such unknown or lost houses of Bengal, which were of prime importance during the colonial era, both geographically and socio-economically. Some of these houses are destined for demolition and if not documented in a timely manner, might erase the important bits of colonial styles forever.

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Fig. 1: Bansberia Rajbari
Picture courtesy: Authors



Fig. 2: Rajbari Entrance
Picture courtesy: Authors

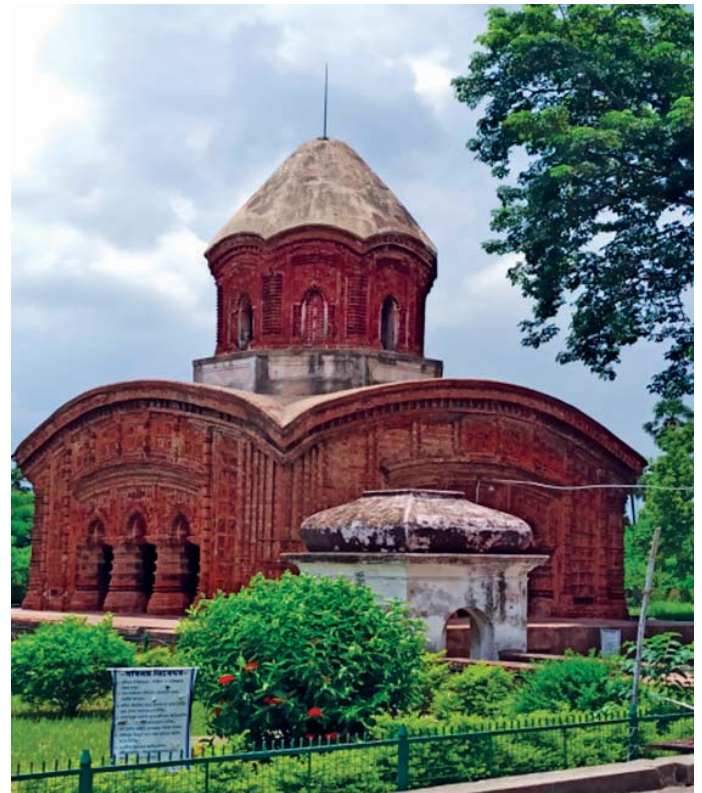


Fig. 3: Anant-Vasudeva Temple
Picture courtesy: Authors

Our documentation mainly focused on the different elements of architecture; its features and forms, and how it was influenced from various regions, eras, and styles. We traced back history to its evolution, applying to the various conditions, demands and differences. We focused on style or art, cross influences, amalgamation of multiple styles, environmental adaptation, urban scale or design, and material negotiation of the selected buildings to understand their perception of design. We also studied the influence of other socio-economic movements, and geographical features such as the Industrial Revolution, the importance of river Hooghly, and how its presence influenced the architectural style.

OVERVIEW

Subjugation by colonial powers led to poverty, malnutrition, and an economic downfall along with all other ignominies dished out by the oppressors. Due to this, however, the Architecture and Art of Bengal went through various influences and cross influences, due to which it developed a style often referred to as a 'borrowed' style. All the buildings, public and private alike, did not get influenced/inspired from the classical style, but in some cases, a direct reference was found. This effectively stopped the evolution of the traditional style of architecture,

and the designers had to adopt the foreign style. Since the Architecture was kind of similar for both, the affluent natives and the colonizers, there was no way one could distinguish between them. The only distinction was in their location – the Native 'para' (brown colony) and the Saheb 'para' (white colony).

Bandel, Chandannagar and Srirampore are very interesting towns that developed under colonial rule beside the river Hooghly. Their location was a major advantage, hence various colonial rulers like the Portuguese, the French, the Danes and later the East India Company, settled and developed this area, according to their needs and aspirations. However, a major part of this area was still under the 'Zamindars' of Bengal. Art and architecture developed through the influence of each of these communities, each sharing their style and critics, to build what is known as the 'Indo-Saracenic Style of Architecture' - although its purity has been infiltrated through the Colonial, Islamic, Dutch, French influence. Also, the style of architecture was influenced and facilitated by the local availability of material and craftsmanship, the waterways, and the railways. Hence, through development, a change in style and material could be very well identified. The location was also a major factor which determined the availability of material (for example: the availability of clay bricks, highly

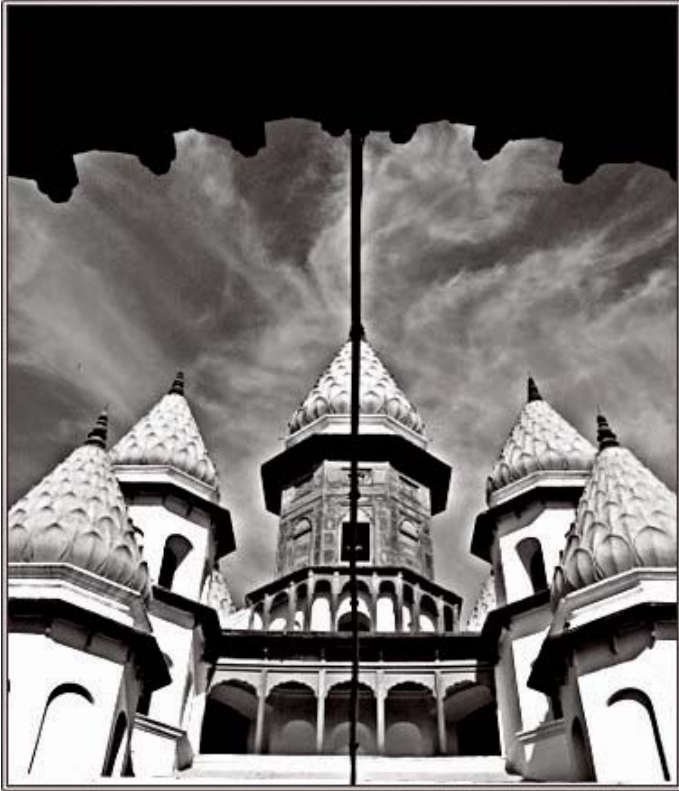


Fig. 4: Hanseswari Temple
Picture courtesy: Authors

skilled artisans). With the Railway lines and better Waterways, the import of new age 'material' (cast iron, coloured glass etc.) was possible.

THE BANSBERIA RAAJBARI AND TEMPLE COMPLEX:

This Raajbari belonged to the Zamindars of the Deb family; in 1660 after getting the rights or pattas from the Mughal empire, Raghavendra Deb built the huge mansion on the banks of river Hooghly, reared up by an "athchala" style Temple dedicated to Lord Vishnu. Later in the 1800's another temple was built



Fig. 5: Dakshin Shariki Mondol Bari
Picture courtesy: Authors

in the complex called the Hanseswari temple. These buildings showcased a variety of styles, from certain classical columns to the traditional adaptation of certain spaces and forms that illustrated the diversity in design. The most interesting feature of the temple complex was how it still could preserve 3 distinctive styles of architecture together; the Raajbari (showcasing majorly classical and western mansion styles of architecture), the Ananta Basudev Temple (displaying the traditional Bengali athchala style of architecture, with intricate details of terracotta flaunting the craftsmanship of that era), the Hanseswari Temple (flaunting the very unique 'Onion domes' - inspired from Russian Architecture, and certain features from Classical, Islamic and Hindu Style of Architecture). These unique characteristics make this space one of the greatest examples of timeless architecture, its impact on social lives, and how it influenced the collaboration of various styles and merged them together to create something so beautiful.

The Raajbari

The structural design of the gateway to the palace complex is constituted of a rounded single arch opening. The gateway is built with rectangular and circular brick. The structural plan of Bansberia Gateway is designed in the old Islamic style. A central Round Arch in the entrance supported by 2 double columns on both sides, derived from Romanesque Architecture, acts as a structural as well as a decorative member. The cornice supporting the column is also of the same style, complementing the heavy columns. Just above the entry gate is a *Nahabatkhana*, with 2 pendentives (a predominant feature of Islamic Architecture) on both sides adding to the conspicuous beauty and uniqueness of the structure. Evidence and traces of a pre-existing dome could be found in the dilapidated ruins, which marked the grand entry to the Raajbari. The Raajbari itself showcased a variety of form developments and adaptations from various styles, like the *Gari-baranda*, with classical columns depicting the colonnades and arcades from the Roman era, the louvered windows and various classical column capitals, though the differences were portrayed through scale and proportion, and materials.

The Ananta Basudev Temple

During the 17th - 18th centuries, in Bishnupur-Bankura, the Malla Kings built Vaishnav Temples and structures. Typical features of these temples were an ornate and intricately patterned outer skin made of baked clay or Terracotta. This was perhaps an apt substitution of decorative stone carving work, which



Fig. 6: Uttor Shariki Mondol Bari
Picture courtesy: Authors

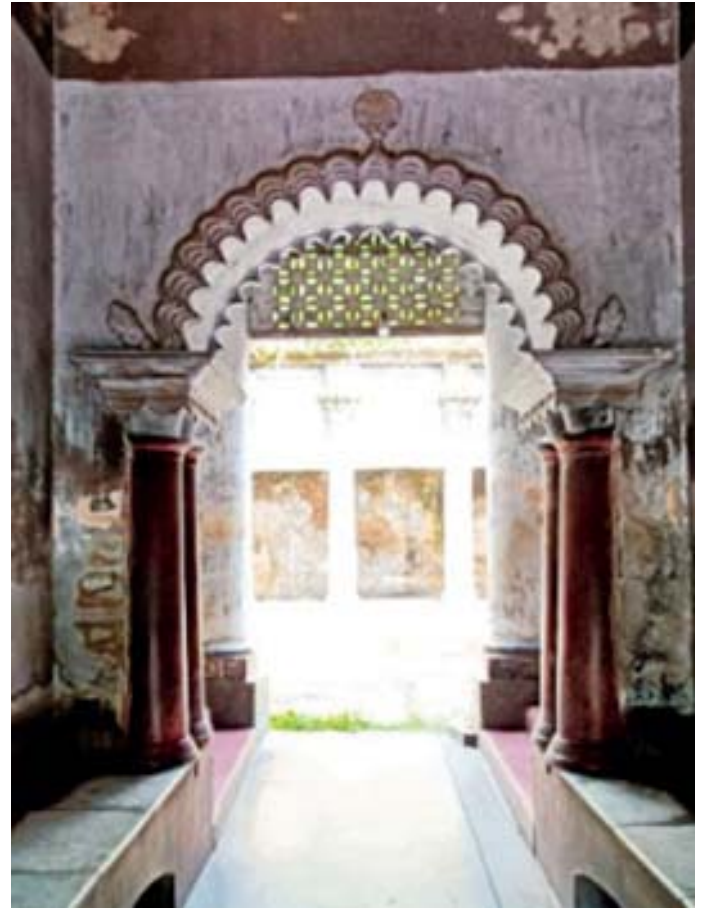


Fig. 7: Nandi Bari
Picture courtesy: Authors

was difficult to get in Bengal. Terracotta clad facade treatment can be seen in other parts of Bengal too, perhaps for the same reason; a major example being the Vishnu Temple (Ananta Basudev) in Bansberia, Hooghly.

The temple structures contain gabled roofs which are colloquially called the 'chala', for example a gabled roof with an eight-sided pyramid structured roof will be called "athchala" or literally the eight faces of the roof. The tower on top of the temple is octagonal. The terracotta works depict stories from the great Indian epics Ramayana and Mahabharata, as well as from the *lilas* of Krishna.

The Haneswari Temple

The Haneswari Temple was Built by Raja Nirshingha Deb and Rani Shankari from 1802-1814. The temple features 13 towers, the tallest being 21 mt. high, with various types of arches, vaults, domes and even columns. Haneswari Temple, built by the rulers of Bansberia, was strangely and conspicuously different. The 'onion domes' of the temple remind one of East European influences, especially the St.

Basilis' Cathedral of Moscow. The interior features also seem to be a crafty combination of multi-cultural / religious elements, without any typical colonial impact, thus making it an extremely unique piece of architecture of Bengal.

A five-lobed pattern divided by cusps; a cusped arch with five foliations worked into the intrados cinquefoil tracery at the apex of a window, was a special feature in the temple owing its influence on the traditional Bengali Temple Architecture. Architectural influences can be traced back to various styles and eras; The temple has 13 conical Shikharas decorated with lotus-petals. The presence of Shikharas with spires show its resemblance with Hindu Architecture. The presence of columns, arches, vaults influenced by the Classical style is evident. Decorative cornices and corbels also suggested its resemblance to Classical Architecture through various periods and regions with square base followed by a rectangular shaft, Minarets (the upper part consists of an octagonal shaft) followed by cornice and dome. The presence of minarets and decorative arches exemplifies the influence of Islamic Architecture.



Fig. 8: Putul Bari
Picture courtesy: Wikimedia

THE MONDAL BARI:

The Dakshin Shorik Mondal bari or Mondal Abashon is situated near “Char-mondirtala” of Chandernagore – the native merchant’s area during the colonial era. Built on a 0.9-acre site, it dates back almost more than a century – 1325 (Bengali year) or 1918 by Zamindar Bonbihari Mondal and is now maintained by his grandson Goutam Mondal. The Uttor Shorik Mondal bari was constructed in the year 1741 and was initially known as ‘chine bari’ or the Chinese house. The building is claimed to be one of the oldest Zamindars of Chandernagore. Made by then-residing French artisans, these buildings are a perfect example of Indo-French Architecture with many French influences in the building’s design elements.

The Dakshin Shorik Mondal Bari

The beautiful house has massive gothic columns, an erstwhile *thakurdalan* in the inner courtyard and extremely intricate and delicate railings and motif details. *The thakurdalan* has not been in use for many years now but one can only imagine the house in its prime. This building of the Mondal’s stands strong till date despite its age. The family has long forgotten its economic zamindari status and stands solely on the income generated through weddings or other celebrations held at the house. We find intricate cast irons *jaalis*, possibly influenced from the Gothic style of architecture. The courtyard style building tells the tale of a typical Bangali *Bonedi bari* which focuses on communication integrity and togetherness

The Uttor Shorik Mondal Bari

The house represents the Indo- French Style of architecture, with large pilasters, decorative column capitals, ornamented cornices, and intricate arches. The imperial structure is palpably within the Thakurdalan too, with its Gothic pillars, housing centuries of historical tales. The house has 85 rooms, of which only a few are in use, with a treasure of



Fig. 9: Andul Rajbari
Picture courtesy: Wikimedia

artefacts like a huge Belgian glass mirror brought via the water route from Belgium. The house is adorned with 18th-century wooden furniture and fine paintings on the bedroom walls. The Gari Baranda is also a highlight of the building as it reflects the prosperity of this family at that time.

THE NANDI BARI:

The 100-year-old mansion was built by the Nandi family, who were then a very well-established merchant family. They had built two *thakur dalan*’s, one for the Durga pujas, and one solely dedicated to lord Shiva (outside the premises). French craftsmen were hired during the construction of the building. The concrete chajjas above the doors were later added to the building. The entrance gateways is a MULTIFOIL ARCH and it is detailed with intricate work of *jaalis* with decorative floral motifs used in Islamic architecture, particularly in Moorish architecture of al-andus. The cornice used here is called the DENTIL CORNICE which were basically used in ancient Roman and Greek architecture style similar to the one seen in the Pantheon, Rome. The front facade includes pilasters which depicts the indigenous style of architecture as seen in San Pietro in Montorio. It is a wooden louvre window with a top blind arch present in the houses’ elevation. These types of windows are inspired from French architecture. The protruded chajja from the front facade is of Indo-Islamic style.

THE PUTUL BARI:

Putul baari located on the banks of Hooghly River in Shobha bazar, is a famous sprawling house. It was used as a warehouse for the imported and exported goods from Kolkata port, due to which it has large rooms. Typical to most presently old North Kolkata buildings, this is in a similar dilapidated state, not painted for decades, the red brick structure stands out.

Various features of this mansion were influenced from different architectural styles, like that of the gothic arches in the entrance, the Lunnettes in windows, and massive columns which had direct reference from the Roman and Greek Style of Architecture. Various types of modern brick work and jaali systems are also identified which can be traced back to Islamic and Egyptian architecture. Cast iron railings and rose windows inspired from the mansions of the west adorn the front facade. Brick and cement mortar was an exceptional material that was used in construction, along with stucco plastering, in certain spaces the true texture of brick work is also portrayed, making the structure unique to others.

THE ANDUL RAAJ BARI:

The construction of the Raajbari began in 1830 by Raja Rajnarayan Roy. This building is an epitome of beauty with intricate detailing and unique features. The front facade of the raajbari is adorned by 10 massive Doric columns, which preserves the grandeur of the structure. Various types of casement windows and Lunnettes are evident, owing to the French style of Architecture. Segmented and round arches depicting the Victorian style is well replicated and merges seamlessly with the front facade. Intricately carved floral motifs show resemblance to Islamic style of architecture. Various other important elements of the Roman and Greek style of Architecture were developed like, round arches, Corinthian capitals, louvered windows etc. Large pillars in the front facade provide stability and a sense of proportion to the massive structure. Another important feature was the use of Mangalore tiles on the sloped roof of the balcony. This is an important attribute to the Spanish and Italian style of Architecture. Cantilever balconies and pitched roofs highlight the uniqueness of the building, making it one of the rare buildings of great architectural history.

CONCLUSION

Buildings of a bygone era are an intrinsic part of the development of any historic town and city. Despite a sluggish property market, the real estate investments are likely to continue. The bulging population and a thriving IT related business sector has caused a noticeable expansion and development of the suburban areas. It is now a matter of concern that cities and towns will lose their rich architectural legacy and character. City sustainability can be achieved if the city's cultural history is preserved, which is why conserving the important buildings is imperative. The Sustainable Development Goals adopted by the United Nations General Assembly in

2015 comprises the sub-goal to “strengthen efforts to safeguard and preserve the world’s cultural and natural heritage.”

The photo documented buildings presented here are unique in nature, adapted to the local conditions and built using local materials. A detailed documentation of features and forms would not only preserve this historic structure, but would also help educate people about that period. The retention and maintenance of these old buildings, and the spaces that come along with them, can provide a platform for more intimate interactions of the inhabitants of a city. It would make them proud of their city and help rebuild the old allegiance to those spaces.

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Concepts

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Let's Spur to Make Some Shelters

Identifying Alternative Methodologies in Centring and Formwork of Dome-Shells

By Ar. Vivek Sagar Sharma, Ar. Aastha Thappa and Ar. Ramandeep Singh Khanna

1. What are Shells?

The term 'Shell' is used to describe structures possessing strength and rigidity due to their thin, natural and curved forms, such as Coconut Shell, Shell of an Egg, Shell of a Tortoise, Shells of Clams and Oysters, Human Skull, A nut, etc. Coming to human constructions and architecture, a dome-shell is a more familiar type of Shell, which, in theory, works on the same principles as other natural shells and has the potential to become the most dependable form of a 'Shelter' for human habitation. Despite being such a naturally good form for shelter-making, it is not replicated so often. A quick go-through into constructions and architecture the world over will reveal that, except for the buildings for religion and authority, we hardly find them existing. Many questions may arise, but the answer could be simple: Domes and Shells are difficult to build. But, one may also ask: Do humans have a common-place method of making shells, just like other relatively less skilled beings in nature? The answer can be a small 'Yes' and a big 'No,' because, except for the very traditional method of constructing a dome brick-by-brick, we do not have any other common-place method of Centering and Formwork for building Shells or Dome-Shells. It is therefore imperative for all types of Dome-Shell makers to work on the crucial relationship between the formwork and the resultant Shell. As responsible citizens of the world and as recognized creators, architects should work

towards decoding 'practical' and 'common-sense methods' of making Dome-Shells and making them popular among the masses. Since Dome making will tend to remain labor-intensive work, it may have the potential to disrupt the labor market, especially in developing nations.

Broadly speaking the Shell types can be classified into singly-curved and doubly-curved shells; which are further classified into Domes, Ellipsoids, Paraboloids, Hyperboloids, etc. A dome, however, is a great example of a Synclastic shell; it is doubly-curved and can be formed by rotating a curved line around an axis. A dome can be studied by splitting it up into two different directions, vertical sections separated by longitudinal Arch lines (or Meridians) and horizontal sections separated by Hoops (or Parallels). The structural behavior of a dome-shell is such that under a uniform loading, it is under compression everywhere, and the stresses act along the Arch and Hoop lines (Figure 1 is a schematic diagram showing the structural behavior of a Dome-Shell).

Romans are known to have introduced the first large-sized dome structure in the form of Pantheon in (113-125) AD. The Pantheon dome was considered to be the largest dome in the world for 1300 years.

The period intervening between the two world wars and then up to the 1960s can be called the golden period for 'Concrete Shell Construction', but most of

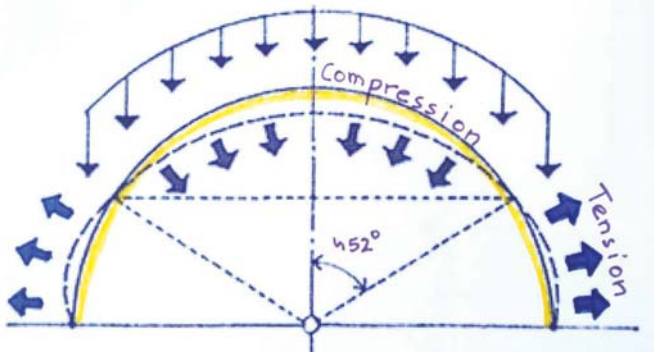


Fig 1: The structural behavior of a Dome-Shell
Source: Author

the builders and designers invested their creativity in defining new structural shapes for the shells. The highlight of this golden period of Shell Making were: Felix Candela and Heinz Isler.

If one shell is chosen as being the inspiration for a complete generation of new shell engineers, it must be the Los Manantiales Restaurant in Xochimilco, by Felix Candela. Los Manantiales is basically an eight-sided groined vault that is composed of four intersecting hyperbolic-paraboloid saddles (See Figure 2, left). Los Manantiales consists of eight groins and all of them are thickened into a well-defined V-shaped beam. These beams enhance the structural stiffness of the groins which in turn reduces the bending and deflection, thereby addressing the normal edge forces.

On the other hand, Heinz Isler also demonstrated his technique of constructing long-span shells by using fabric-formed models in the design process itself. His studies into physical modeling emphasized form and its stability. The desire to create highly efficient structures having the least environmental impact motivated the Swiss engineer to explore different formworks. His early experiments with the technique were very successful (Figure 2, right, shows one of the concrete shells made by Heinz Isler).

2. Architecture in Shell Structures

There are immense possibilities in creating forms and structures made out of Shell Structures. Starting from the basic Igloos made of ice and snow, one can work with simple and composite forms to create structures that can enclose such volumes of space, which are otherwise not possible by any other means. The glaring examples of modern-day Shells can be seen in the form of the Sydney Opera House and Lotus Temple, New Delhi (See Figure 3). Possibilities apart, the difficulty of making shell structures is primarily due to the considerable labour and material required to construct the centering on which the shell could be cast.

3. Centering of Shells

Centering is the temporary support on which the curved shell structure is cast. Centering for singly curved shells is less complex as compared to the centering involved in doubly curved shells like Domes and Hyperboloids. Figure 4 in a way exemplifies this through the enormity of formwork and centering required in the making of Lotus Temple, New Delhi. The attraction of Shell structures, however, lies in the elegant simplicity of curved surfaces that utilize the natural strength and stiffness with economy in the use of materials.

World over, people have genuinely tried to resolve the issues related to the centering and formwork of Domes and Shells. Prominently among those who have tried to interpret and reinvent the centering and formwork for Dome-Shells are:

- Fuller & Sadao Inc (Geodesic Domes)
- Monolithic Domes
- Binishells
- Spur D

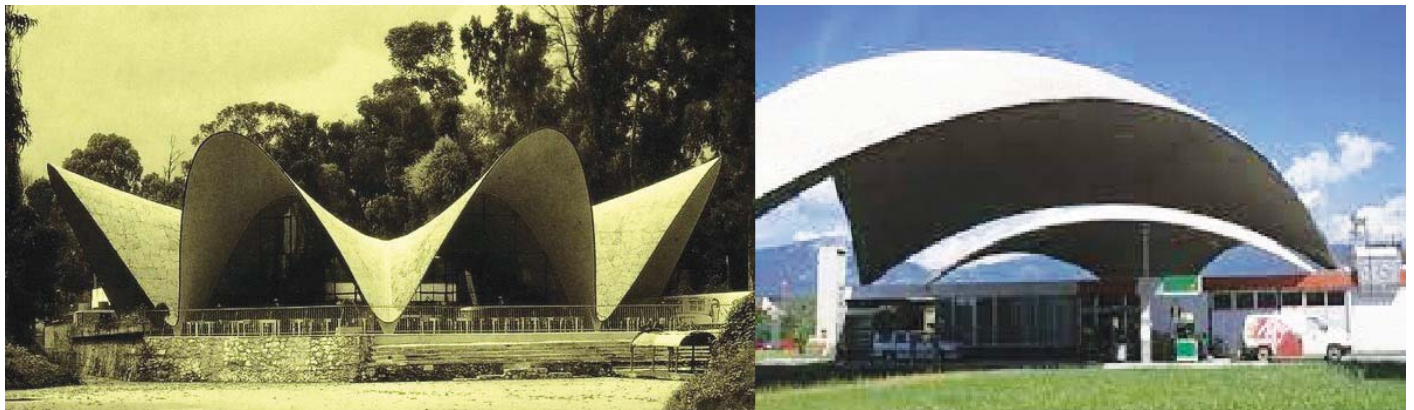


Fig. 2: Los Manantiales & a concrete shell by Heinz Isler
Source: David P. Burger (2006) & Heinz Isler archive



Fig. 3: Sydney Opera House & Lotus Temple, New Delhi

Source: <https://aehistory.files.wordpress.com/2012/10/opera-house.jpeg?w=700>,
<https://s3.ap-south-1.amazonaws.com/esapp/evmpic/1526388862599.jpeg>

4. The Polyhedron (Geodesic) Shells by Fuller (Buckminster Fuller, Sadao and Zung Architects)

A geodesic dome is a hemispherical thin-shell structure (lattice-shell) based on a geodesic polyhedron. The triangular elements of the dome are structurally rigid and distribute the structural stress throughout the structure, making geodesic domes able to withstand very heavy loads for their size. Sir Buckminster Fuller coined the term 'Geodesic' in 1948. Although Fuller was not the original inventor, he is credited with the U.S. popularization of the idea for which he received U.S. Patent 2682235A on 29th June 1954. The oldest surviving dome built by Fuller himself is located in Woods Hole, Massachusetts, and was built by students under his tutelage over three weeks in 1953. According to Guinness World Records, the Jeddah Super Dome, Jeddah, Saudi Arabia, at 210 m (690 ft.) is the current largest geodesic dome (See figure 5).

Despite having the ability to cover huge amounts of space, and having been popular over a very long period during the 70s, Geodesic dome faces some disadvantages. Off-the-shelf building materials (e.g., plywood, strand board) normally come in rectangular shapes, therefore some materials may have to be scrapped after cutting rectangles down to triangles, increasing the cost of construction. Creating doors and windows can cost anywhere from five to fifteen times as much as windows in conventional houses. Professional electrical wiring costs more. These domes are difficult if not impossible to build with natural materials, and generally require metals, plastics, etc., which deteriorate in sunlight and are a source of pollution. The paneled frames often face leaking and are therefore high on maintenance (Figure 6 shows one such paneled Dome-Shell Structure made through Geodesic technology).

5. The Airform Dome-shells by Monolithic Domes and Binishells

Monolithic Domes have invested in the process of construction of shells/domes. With more than 4000 thin-shell RCC dome structures to their credit to date and with the level of business expansion achieved, they are the most successful dome/shell constructors ever. Their story started in the late 1970s and early 1980s, when David, Barry and Randy South developed a system in which fabrication of Airform was done to the desirable shape and size and placed on the ring base. The Airform, when inflated with the help of blower fans, created the required size and base work of the dome structure. After the completion of the inflation, polyurethane foam was applied in the interiors of the inflated airform which gave it the required stiffness to support the weight of reinforcing steel rebars and concrete (Figure 7 shows the inflated Airforms and a completed Dome-Shell by Monolithic Domes). However, the original Binishells by Dante Bini (1932) pre-date all kinds of Dome-Shells made with the use of Airforms. Airforms were pioneered by the great Wallace Neff (1895-1982). Binishells are known for their simplicity and flexibility.

It is important to note that the blower fans run throughout the period of the construction and are shut off only after the setting of the concrete. In short, besides being very novel and impressive, and besides being able to cover huge spaces under their Domes, Monolithic Domes require Airforms to build domes and air pumps are required to inflate these Airforms. As per the conventions put in place by them, large Monolithic domes are reinforced and cast from the inner sides of the Airforms, while small domes can be cast over the Airform from outside.

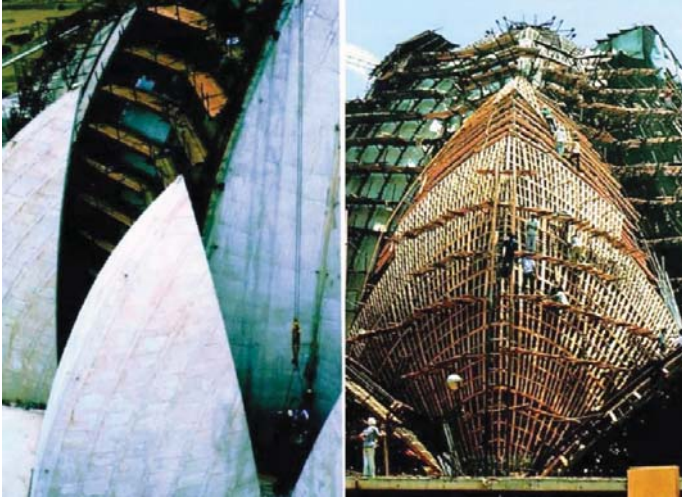


Fig. 4: Quantum of Centering required for constructing one part of Lotus Temple, New Delhi Fig. 4: Quantum of Centering required for constructing one part of Lotus Temple, New Delhi

Source: <https://image.slidesharecdn.com/shell-170123182014/75/shell-structure-65-2048.jpg?cb=1665838291>

6. NEW EXPERIMENTS WITH KNITTED OR SEWN FABRIC AS FORMWORK

The present age is, however, a new age of ideas and discoveries. It is also an age of intervention of Information Technology in every sphere of life. People no longer stick to old principles and want to experiment with new elements and new materials and propagate the same. For example: various types of fibers, as formwork materials or as reinforcement materials are quickly finding a place in building structures. A wonderful application of knitted fabric as a formwork, as well as reinforcement material on an architectural scale, can be observed in a 13-foot tall shell structure called Knit-Candela. This shell structure forms a part of the museum in Mexico

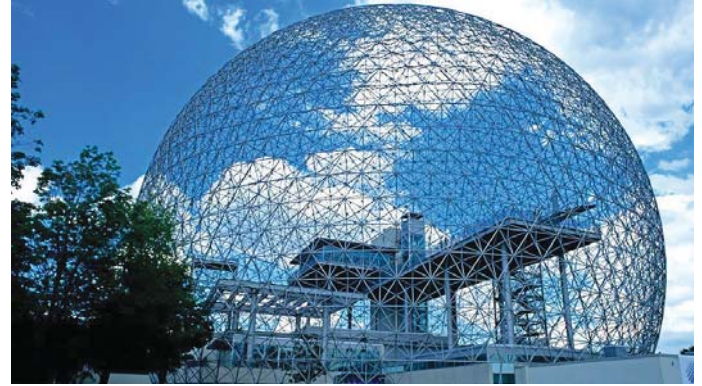


Fig. 5: Jeddah Super Dome, Saudi Arabia, by Geodesic Dome-Shells
Source: <https://ychef.files.bbci.co.uk/1600x900/p020y545.webp>

City dedicated to Felix Candela (a Spanish-Mexican architect). The project made with the collaboration of Zaha Hadid Architects computation and design group is a glaring example of a partially concrete shell having formwork made up of knitted fabric supported by a steel cable (Figure 8 shows Knit-Candela shell: Finished and Under-construction stage). The important takeaways from this experiment were:

- The knitted fabric pattern for centering purposes could be digitally generated with the help of industrial knitting machines.
- To build the structure, the formwork of knitted fabric was tensioned between a boundary frame, and in the next step a specially formulated cement mixture was sprayed till it became a few millimetres thick.
- After the hardening of the cement, another layer of conventional fibre-reinforced concrete was applied to complete the Shell work.

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Fig. 6: Geodesic Dome-Shells with Concrete Panels

Source: <https://www.aidomes.com/images/stories/slideshow/2dome.jpg>



Fig. 7: The inflated Airforms & a complete Dome House by Monolithic Domes

Source: https://northescambia.com/gallery2/main.php?g2_view=core.DownloadItem&g2_itemId=54961&g2_serialNumber=2,
<https://monolithicdome.com/vault/img/2023/08/31/64f0da9cde5949b7381d879d/us-wy-chugwater-charles-susan-randolph-dome-home-1-large.jpeg>



Fig. 8: Knit Candela shell: Finished and Under-construction

Source: <https://images.adsttc.com/media/images/5be0/3bda/08a5/e5ff/8600/0094/slideshow/image-5.imageformat.slideshow.297555428.jpg?1541422039>,
<https://images.adsttc.com/media/images/5be0/3c14/08a5/e5b9/7500/015d/slideshow/open-uri20181105-887-1an7ap1.jpg?1541422096>

- The formwork, including the knitted fibre and steel cables, weighed less than 30 kg but supported almost five tonnes of concrete.

7. Cast-in-situ, Fiber-formed and Composite Dome-Shells by Spur D

This method of Dome-Shell construction has come to be recognized by Govt. of India, with the award of Patent No: 411109, dated: 10.11.2022, for 'Method and System for Construction of Dome-Shaped Shells and Structures' to Spur D Shelters Services Private Limited (Spur D), Jammu, J&K, India. This construction methodology broadly comprises of the following four steps:

1. Positioning of a spherical spur hub over a pedestal, for mounting of radial spurs.
2. The first layer, or a Sack-round shape, is formed over the radially extending spurs.
3. A composite layer is formed, which is a combination of layers of fibres/textiles and other subsequent layers of meshes and steel wires.

4. Forming or casting of Shell by the method of reverse pocketing moving from the bottom gradually upwards and casting a cementitious layer within a composite layer of Mesh and Fibres.

Figure 9 shows an example of radial formwork and casting of composite shell by Spur D. These fibre-formed Dome-Shells by Spur D are said to be mimicking some naturally existing processes, where centering is achieved through the radial protruding spurs. Till date, Spur D has accomplished a variety of applications of their simple inventive process, which includes the making of 'Saardh-Golardh' type Dome-Shells - a kind of three-fourth of a total Sphere. There are many firsts attributable to them:

- First totally sewn-sack formwork for making individual or interconnected Dome-Shells.
- First Dome-shells with complete ease of pairing equal or unequal-sized Domes.
- First successful display of fibre-formed Thin-shells in India.



Fig. 9: An example of Radial Formwork and casting of the composite shell by Spur D
Source: Author

- First practical demonstration of fibre-cast Shells for use in regular Civil/ Architectural projects.

Figure 10 shows a recent Saardh-Golardh type Dome-Shell constructed by Spur D. By way of such prototypes, Spur D has demonstrated that their shell structures are strong and sturdy and consume less than 14% of resources as compared to the conventional brick-masonry construction. Their shells consume even less volume of water during the course of construction. Their process of making dome-shells is rather easy and replicable, but currently limited to a maximum size of 12 m. diameter.

8. Shells as shelters: A new form of habitat

According to an estimate, there are about 1.5 billion homeless on this globe. Natural and man-made calamities and disasters are just going to increase their numbers. Life of one-fourth of humanity is at stake and the poorest are becoming the biggest sufferers. There is an ever-increasing and realistic demand for better shelter which is cost-effective and does not fail. Architects all over the world acknowledge the characteristics of Domes and Shells, as together they have the ability to transit the unexpected loading due to Earthquakes, Hurricanes, Rain, Snow and Windstorms very easily. Several innovators are working in this field today and trying to introduce new options for shelters to humanity. But, every architect and civil engineer has to come forward and seriously contribute towards this, provide real solutions to the great housing problem, depleting resources, etc.



Fig. 10: Recent Saardh-Golardh type Dome-Shells constructed by Spur D
Source: Author

Dome-shell construction is not new to the human race, but it still awaits a whole-hearted welcome. Companies like Monolithic, Binishells and Spur D are quite serious about Domes as an alternative. Spur D claims to have clicked upon the most economical method of formwork and centering of small Dome-shells, while Monolithic and Binishells are pioneers in using Airforms for the same. Time is calling us to adopt these new technologies. So, let us pledge our commitment to Mother Nature and see if we can spur some shells to build some shelters.

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Ar. Vivek Sagar Sharma (A12615) is a renowned innovator/researcher of Jammu (J&K), and has been granted a patent for his invention - 'A Method and System for Construction of Light-Weight Dome Shaped Structures', vide no: 398545, dated: 03.06.2022 by GOI. He is currently working in the Department of Skill Development, J&K.

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Rethinking Public Utilities

Towards User Sensitive Contextual Design

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1. INTRODUCTION

Public utilities such as toilets, drinking water facilities, etc. are essential public conveniences specifically targeting the floating population in a city. They are to be accessible by everyone and well-connected to important areas and pedestrian junctions so that their benefits can be shared by a greater public footfall considering the location and its value for the people (Fig. 1). The research focuses on gender-neutral utilities over gender-segregated utilities to promote inclusivity, harmony and integrity in the society. 'Inclusive Urban Planning for Toilet Design' quotes that toilets meet vital human needs and have a huge impact on a nation's health. But public toilets are often perceived as poorly maintained, indecent facilities without proper infrastructure and often deficit of one or the other services, thereby highlighting the importance of efficient and hygienic utilities. The research hypotheses aim at predicting:

1. Gender-neutral space design is more economical than gender-segregated space design.
2. One size does not fit all. Sanitation facilities are not mere physical entities and must be designed keeping the needs and aspirations of various socio-economic and cultural groups in mind.
3. Public utilities cannot be designed as universal entities without a location context.

The aim is to rethink the public utilities across a city through a gender-sensitive approach in contextual design. The objective of the study is to analyze the

existing utilities present in the representative areas of Jaipur city with respect to gender and their user and use characteristics along with the existing network of services in the city including water supply, water storage systems, drainage systems, waste collection and treatment.

1.1. History of Public Toilets:

"The toilet is a part of the history of human hygiene and constitutes a critical chapter in the history of human civilization." - Dr. Bindeshwar Pathak

The existence of toilets has a long history, probably older than that of the Roman Empire. Excavations at Mohenjo-Daro confirm the existence of common baths and private toilets in households. People had a highly developed drainage system where waste water from bathrooms as well as toilets in each house flowed into the main sewer through a drain pipe passing under each house. By 700 B.C. flush-type stools had appeared. With the passing of different eras and innovation in toilet design, the first recorded sewer line was constructed in England by 960 AD. In 1088 AD, toilets in the Lochester Fort were constructed in the castle wall and human waste fell on the outer side of the wall through a hole. The first sewers were constructed in Paris by Phillipe August by 1200 AD. Water closet (WC), the essential convenience of modern living, was invented in about 1596 AD by Sir John Harrington (Fig. 2). An improved model of Harrington's WC incorporating a stink trap with perennially present water to suppress odors, was patented by Alexander Cummings, in 1775 [1].



Fig. 1: Users Occupying Different Public Spaces
(Source: Author)

Further improvements were made in the valves and design of toilets. The general health of people started improving with the invention of a modern sewer system in Hamburg in the 1840s, with arrangements for flushing the pipes regularly with river water. The finest among the 19th century sanitary engineers was Sir Joseph Bazalgette, who in the 1850s, equipped London with an efficient system of sewers for which he invented automatic flood doors and new pipe sections allowing speedier flow of effluents.

In India the first sanitation bill was introduced in 1878, proposing the construction of public toilets even at the cost of neighboring houses. While construction happened post 1940, they were sparse in number. The Government of India enacted another sanitation act in 1993. Under this act, construction of dry latrine and its manual cleaning was made an offense [2]. Despite the enactments open defecation is rampant, establishing that unless adequate social awareness is created in a developing country it is difficult to make any significant progress in this area.

1.2 Stakeholders and Policies involved:

The various stakeholders involved in public utilities are 'users' including locals and tourists, 'governing bodies' like Jaipur Nagar Nigam (Greater and Heritage region), Ministry of Housing and Urban Affairs, 'NGOs' like Sulabh International, Namma, Garv, etc., 'care takers and cleaning staff' maintaining the utility. The service providers work on various models like 'Service Contract (SC)', 'Build, Operate and Transfer (BOT)', 'Operate, Maintain and Transfer (OMT)', 'Rehabilitate, Operate, Maintain

and Transfer (ROMT)', etc.

The Indian Government has initiated multiple sanitation policies over the years to improve the condition of public utilities. The most recent scheme is the 'Swachh Bharat Mission' aiming at elimination of open defecation.

1.3 Cost and funding:

There are three major costs involved in developing public toilet facilities – land, construction and operation & management cost. Construction includes structural cost, fixtures, service connections, etc. Urban Local Bodies can access and appropriately use centrally sponsored schemes (*Swachh Bharat Mission*) and subsidies, state government support, Loans (MFIs / SHG federations / banks) and own funds for constructing public toilets. Funds for operation and maintenance involve user fee, revenues from commercial areas and other supporting infrastructure.

2. MATERIALS

Various literature studies were conducted on public utilities to gain a comprehensive insight into the various dimensions involved in their effective design and to identify inventive solutions for ensuring long-term functionality and maximizing usability for the public.

2.1. On basis of ownership and service provided:

2.1.1. *Sulabh* Toilet Complex: An initiative by Dr. *Bindeshwar Pathak*, *Sulabh* set up its first public toilets, baths and urinals in Patna, Bihar in the year 1974. A pay-and-use self-sustaining system is adopted to eradicate open air defecation and keep the urban life clean and livable. Toilets in cities are typically built on a BOT basis by *Sulabh* retaining a part of the contract value as contractor's fee. *Sulabh* has a typical 30-year maintenance contract with the local bodies in most cases. Additional services include bathing, laundry, health care facilities, water ATM, sanitary vending machine and incinerator. It has been widely adopted on different soil conditions across the country with wide variations in their characteristics [3].

2.1.2. *Garv* Toilets: The initiative started in the year 2015 with the development of indestructible smart steel toilets that integrate new age technology (RFID-IOT) in their toilet designs. The project came in partnership with the Delhi Metro Rail Corporation which finances 50% of the capital expenses and provides land and permit to the organization. Various initiatives by *Garv* include toilets for schools, *Swabhimani* - female toilets and public toilets in galvanized and stainless steel. The utilities provided are: toilets, bathing facilities, water ATMs, laundry and business kiosks.

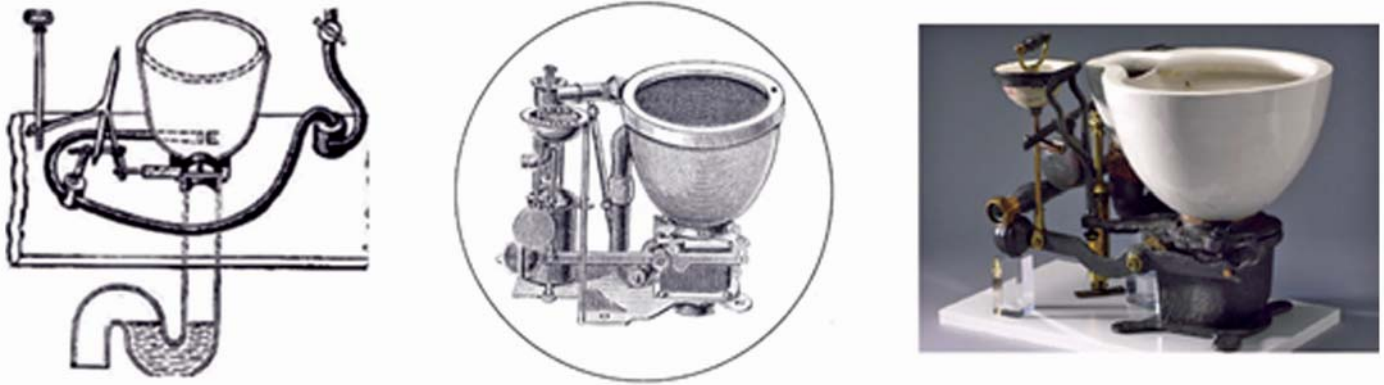


Fig. 2: Evolution of WC Model - 1. John Harrington's Model (Source: <https://www.historic-uk.com>)
 2. J.F. Bronndel's Model (Source: <https://stiripentrucoopii.com>), 3. S.S. Hellyer's Model (Source: <https://laptrinhx.com>)

2.2. On the basis of associated utilities:

2.2.1. Pause: 'Pause', is a multifaceted restroom complex along Bombay-Goa highway. Taking cues from other public utilities, it is painted in red to allow passers-by to quickly identify it. It hosts an array of facilities serving long-distance truck drivers [4].

- Women's section has 4 toilet cubicles, a nursing station, a sanitary napkin vending machine and washbasins.
- Men's zone has a wash basin area, 4 toilet cubicles and 8 urinals – one designed for kids.
- Truck drivers' section with tuck shop, a hair cutting salon, two Indian-style toilets, a pantry, a resting space, banking facilities, etc.

2.2.2. Toilet manifesto: Incepted by Kalpit Ashar and Mayuri Sisodia of MAD(E) based in Mumbai, Toilet Manifesto sets up a holistic design framework through which architecture of public toilets could be integrated with its community and environment. They have created 10 toilet typologies which include portable, bus stop toilets, pavement, railway, urban, community, park, women's, highway and *anganwadi* toilets [5].

2.2.3. Loo Cafe: It is a patented innovation by Ixora Group which is free to use "IOT" based luxury smart washrooms with a café [6]. Key features include self-drying floor, Foot pedal flush & taps, Shoulder push plates, Spring Up Toilet Seat, etc.

2.3. On the basis of innovation and technology:

2.3.1. E-Toilet: It is a modular, pre-fabricated public toilet built in Cold Rolled Steel (CRS) with powder coating or steel. These are unmanned, automated toilets integrated with user-friendly electronic interfaces to support remote monitoring tracked over the web. Revenue collection is through a coin validator system.

2.3.2. ECOSAN: The current water conveyance and waste disposal systems are capital and natural resource intensive [7]. The Ecological Sanitation (EcoSan) toilet model has emerged as a sustainable design without flushing, making it water efficient. This system uses a special ceramic toilet pan designed so that in use, the solid matter and fluids can be separated. The solids are collected in a sealed compartment, and the fluid is diverted so that it can be used immediately to enhance garden watering [8].

2.3.3. Bio-Vacuum toilets: Bio-vacuum toilets are integration of vacuum toilet with existing IR-DRDO bio digester [9] which decomposes human excretory waste in the digested tank using specific high graded bacteria further converting it into methane and water, with minimum use of water.

2.4. Survey and Analysis:

Census 2011 data states that out of 246.6 million households only 46.9% had lavatories, while 49.8% defecated in open and 3.2% used public toilets [10]. Though the number of toilets has witnessed a significant shift over the years, the condition of the utilities has not changed much. To understand people's perception of public toilets, determine the factors affecting their use and identify the fixtures preferable by people, two paper and online surveys were conducted, targeting the floating population of Jaipur city on a sample size of 110 respondents. Majority of the users belonged to the age group of 12-25 years followed by 26-60, Under 12 and 60+, out of which 53.60% were female and 46.40% were male. The respondents were predominantly either students or private and self-employees while the other categories included homemakers, government employees and unemployed, comprising local residents, tourists and visitors. For gaining the public insight on the existing condition of toilets, the first

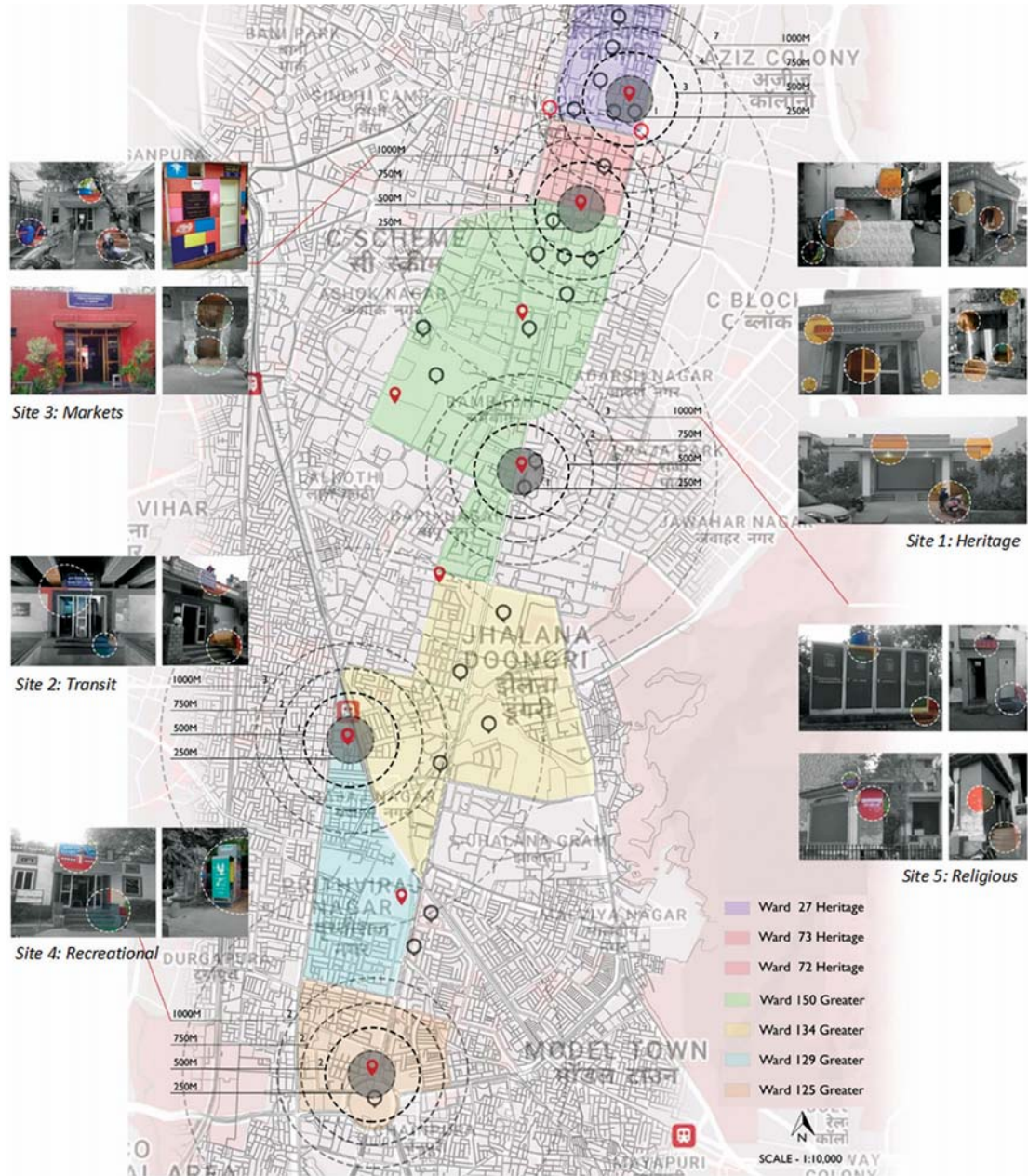


Fig. 3: Urban Mapping of Sites with Existing Utilities in their Vicinity Along with the Existing Issues
(Source: Author)

survey inferred that the majority of the respondents (especially females) felt that public toilets are often dirty, unhygienic, dark, secluded and present an unsafe environment to the users and thus they prefer to avoid their use whenever possible. More than 50% of the respondents, both male and female, seek public toilets located at a few minute distance walk from their destination, for ease in accessibility, in turn promoting 'a walkable city solution'. Overcrowded utilities are found to compromise on the hygiene of the users while deserted ones most often lack in maintenance and thus are undesirable to use, indicating that there should be an adequate number of toilets catering to the area's floating population with shorter queue lengths.

The second survey conducted to understand the preferable infrastructure of public utilities deduced that people often avoid surface contact in public toilets as far as possible. Therefore, incorporating door foot handle, foot flush pedal, sensor driven faucet, automatic soap dispenser and automatic hand dryer can prove to be a more feasible and pristine option for the users. For the design of WC, almost equal preference was given to western sit type, Indian squat type and Anglo-Indian type WC by males, while females preferred Indian squat type WC followed by Western sit type WC showing their greater concern for hygiene. For urinal design, sensor driven urinals with modesty boards were given greater preference over individual ones to ensure privacy and hygiene of

the users. Facilities like baby changing table, sanitary napkin dispenser and incinerator, clean and intact sanitary bins, drinking water station, lockers, etc. are desirable by the users but often absent from the public utilities.

3. METHODS

The surveys aimed at recognizing the existing condition of public toilets in Jaipur city. To gain an amplified perspective, the study area was selected over an urban stretch of around 12 kilometers initiating from *Tripoliya* Gate in the old city of Jaipur to *Patrika* Gate at *Jawahar* Circle. Since, the site faces maximum footfall across the entire city due to the presence of the majority of key landmarks along it, it can be named as the tourist axis representing the transition of the city from historic to contemporary architecture. Though the site has a greater potential of attracting more people, it still contains an inadequate number of utilities catering to all the public needs and requirements.

Along the axis, six regions were identified based on the categories – Heritage, Transit, Markets, Recreational, Religious and Redevelopment (Fig. 3). The ward boundaries encompassing these landmarks were demarcated to identify the footfall and number of facilities required, the user typology and the types of spaces required by them, preferable usage system (either free to use or paid) and the operating hours of the public utilities. Eventually, the condition of the existing utilities present in the vicinity, within the radius of 250, 500, 750 and 1000 meters was mapped.

3.1 Heritage: The site under this category covers the area of one-kilometer radius surrounding *Jaleb Chowk* near City Palace in Ward 27 of Heritage zone under *Jaipur Nagar Nigam* (JNN). The predominant users include local residents, tourists, vendors, travel guides, security and housekeeping staff. There are seven public toilets in the vicinity, all of which lack proper signage, have water seepage and tiles/plaster chipping off from walls, and a smaller access width for only one person to cross at a time. The open utilities for male have garbage dumped in the open; adjacent to the toilet, no provision for drainage of excess water from fixtures, inaccessible for persons with disability and in a poor hygiene state.

3.2 Transit: The site is located adjacent to GandhiNagar railway station in Ward 129 of Greater zone under JNN. The users are local residents, tourists, in-transit visitors, vendors, employees, security and housekeeping staff. The three existing public utilities within the radius of 1 kilometer fail

to cater to the greater public footfall and fulfill their requirements. The toilets are not well lit, with no provisions for entrance of persons with disability and are poorly ventilated.

3.3 Markets: *Bapu Bazaar* is considered as one of the eminent markets of Jaipur city falling under Ward 72 and 73 of Heritage zone under JNN. The chief users are residents, visitors, tourists, shopkeepers and housekeeping staff. Due to the improper parking system, the entrances to the utilities are most often blocked by vehicles. None of the five existing utilities have intact sanitary bins and supporting utilities like lockers, drinking water facilities, etc. vital for the users visiting the market. Open public toilets have tiles chipped off of the stained walls, unwanted posters pasted across the toilet walls, unhygienic surfaces and absence of any privacy of the users.

3.4 Recreational: Situated near *Patrika* Gate, *Jawahar* Circle in Ward 125 of Greater region of JNN, the site witnesses residents of all age groups, visitors, maintenance and housekeeping staff. The two existing toilets prove to be insufficient considering the average daily footfall. There are no provisions for entrance of persons with disability; toilets have broken lock systems with fixtures chiefly prone to vandalism in smart e-toilets.

3.5 Religious: The site is located near *Birla* temple and *Moti Dungri* temple complex in Ward 150 of Greater Jaipur with three toilets in the vicinity for residents, tourists, pilgrims, vendors, priests, homeless and housekeeping staff. The utilities face the issues of water seepage, improper drainage systems, inconvenient access steps' risers, improper signage, defaced walls and inaccessible by persons with disability.

4. RESULTS

The city's urban morphology which reflected the amalgamation of different cultural elements from eastern and western planning has evolved over the years with the modern infrastructure in commercial and industrial units. It yet fails to deliver adequate public utilities with efficient services and infrastructure for the users as per their requirements. Despite having over 74,000 public and community toilets in the country, a greater percentage of users avoid their use and open defecation is still prevalent extensively. The persisting utilities are in a desolate condition. With low awareness regarding proper sanitation practices among users, the toilets are untidy, unlit, lacking in water and waste management services and with broken or vandalized fixtures. It has been revealed that due to

the strict budget constraints in the construction of public utilities, there is often a compromise on the quality of materials and services which eventually accelerates the depreciation. Thus, it highlights the need for an efficient economic model aiding revenue generation for the operation and management of facilities. Quantitatively, men on average have twice as much provision as women of the public facilities [1]. The universal design of utilities irrespective of the needs of users and location is also unsuitable for the majority of the public as it fails to accommodate their pertinent requirements.

5. DISCUSSION AND CONCLUSION

Segregated public utilities are planned such that the same facilities are iteratively provided for different genders thereby consuming more space which could instead have been used to provide additional supporting facilities required by the people. Space being an intangible attribute of design can thus foresee an effective and sustainable utilization through gender neutral utilities. Such utilities also provide a safe and inclusive environment for the users specifically, parents accompanying their opposite gender child to a public toilet or fathers doing primary parenting [11] and accessing baby care facilities which are usually provided in only female marked utilities, an elderly with a caregiver, transgendered [12] who are often a victim to harassment in public utilities. The number and locus of the public utility depends upon the surroundings, incoming footfall of the particular region, the user typology accessing the utility as well as the time of the day it is being used. While considering the different socio-economic and cultural groups, their preferences regarding the design and fixtures of public utilities also varies. Thus, it can be concluded that 'user' and 'location' are the pivotal factors that must be considered while proposing public utilities. The intent of rethinking such utilities through a gender sensitive approach in design is not to bring change in people's lifestyle and beliefs, but to be the change towards advocating an inclusive and safe environment for everyone.

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INVENland

An Ode to Bengaluru's Start-up Culture

By Suzanne Alphonse and Ar. Hareesh Haridasan

Abstract

Bengaluru, known as the “Silicon Valley of India”, has a start-up culture characterized by a high-density technical pool, making it the bedrock of the city’s promising entrepreneurial ecosystem. However, in recent years, there has been growing concern about the need for adequate infrastructure for start-ups in Bengaluru. This shortcoming is gradually hampering the city’s ability to maintain its credibility as the premier start-up hub of the country. While incubators and accelerators are available, their numbers are not proportionate to the growing number of start-ups. Many promising start-ups need more support and mentorship to thrive. To remain competitive and relevant on the global stage, the city must establish a dedicated innovation hub that serves as a focal point for collaboration, talent development and driving innovation forward. This paper based on the undergraduate thesis, explores architectural and urban design strategies that have been used as a means to establish an Innovation hub that binds all the shortcomings and arrive at a proposal that extends itself as an innovation city.

Keywords: Innovation hub, innovation campus, start-up accelerator, R&D centre, Bengaluru

1. Introduction

1.1 Start-up culture in Indian context

Innovation hubs have emerged as key drivers of economic growth and development in various countries worldwide. They serve as platforms for creativity, collaboration and exchange of ideas, leading to the development of new technologies, products and services. India has the 3rd largest start-up ecosystem globally. It is expected to witness a

consistent annual growth of 12-15%. The country had about 50,000 start-ups in 2018 of which around 8,900 – 9,300 were technology-led start-ups. 1300 new tech start-ups were born in 2019 alone, implying that 2-3 tech start-ups are born every day (Startup India, 2023). The start-up capital of India - Bengaluru has witnessed an exponential rise across various sectors such as technology, e-commerce, biotechnology, healthcare, fin-tech and more. With a supportive ecosystem, access to resources and funding and a talented workforce, the city can emerge as a hotbed of innovation and entrepreneurship in the global context.

1.2 Need for an Innovation hub in Bengaluru

According to the Karnataka State Innovation Council (KSIC), the city has witnessed technological advancements and global competition. This demands proactive measures in order to sustain and enhance the innovation ecosystem (Government of Karnataka, 2021). Recent findings from the Department for Promotion of Industry and Internal Trade (DPIIT) indicate that Bengaluru is leading in the number of start-ups registered in the country (PIB Delhi, 2022). The Ministry of Science and Technology states that Bengaluru has a massive concentration of technology research and development through prestigious institutions like the Indian Institute of Science (IISc). As documented by the Ministry of Commerce and Industry, Bengaluru’s partnerships and collaborations between Industries and academic institutions highlight the potential for innovative projects and research (PIB Delhi, 2022). The current entrepreneurial landscape of Bengaluru has been tremendous, but it faces several challenges in maintaining its competitive edge.

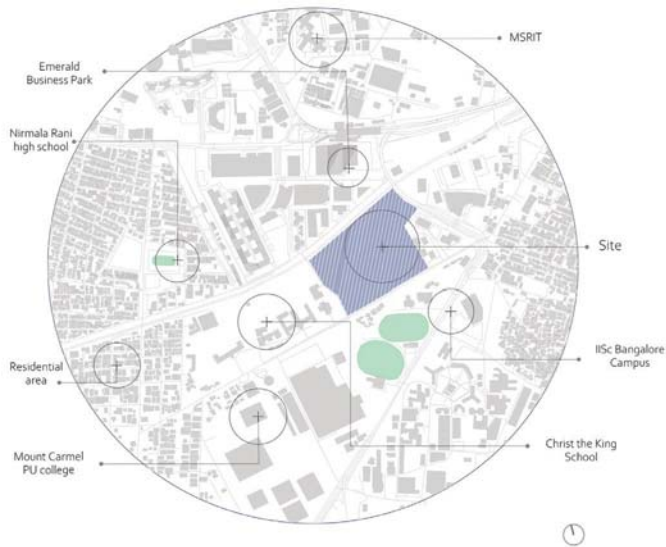


Figure 1: Location of site and proximity
Source: Author, 2023

2. Aim and Objectives

The proposal aims to create an innovation campus as an extension of the city in a location close to a premium educational institution, as stated in ATAL Innovation mission guidelines. (Guidelines for setting up of ATAL incubation centres (AICs), 2021)

The objectives of the proposal are as follows:

- To establish dedicated workshop areas, collaboration zones and formulate workspaces catering to the various verticals and user types such as Edu-tech, Fin-tech, students and mentors
- To create an experiential centre and public library to showcase the prominent innovations developed in the facility while acting as an epicentre of knowledge for students and tech enthusiasts
- To facilitate ease of pedestrian access, create spaces for public interactions and pop-up fairs to improve entrepreneurship skills and to give opportunities to local businesses, along with outdoor cafes and eateries

3. Location of the project

For such a typology, certain territorial synergies and parameters had to be taken into consideration in accordance with the ATAL innovation mission guidelines (Guidelines for setting up of ATAL incubation centres (AICs), 2021). Expected functions of the AICs are:

- To provide state-of-art physical laboratory and other infrastructure as well as value-added support services
- To create a strong network of mentors who would provide sector specific knowledge and real-world practical guidance
- To conduct events and inspirational programs to help develop an entrepreneurial ecosystem in the region
- To forge partnerships and networks with academia, industry, funding sources, existing incubators and others for the start-ups to leverage
- To enable access to prototyping facilities, test beds, markets, and pilot implementation for the products/services
- To facilitate collaboration between a corporate sector entity and a research oriented/ academic institution with aligned areas of focus.

After assessing the above factors, a site located at Yashwanthpur, Bengaluru was chosen. It is situated in The Mysore Lamp Works Limited (TMLWL) along the 8th main road. The site is close to major IT parks like Brigade Park, World Trade Centre, Bengaluru, Emerald Business Park etc. and educational institutions like IISc, M.S. Ramaiah Institute of Technology (MSRIT) are located within 3 km radius (refer Figure 1). In addition, the Yashwanthpur metro station is located at 1.9 km from the site and an existing bus stop is present near the site boundary.

3.1 Why Innovation hub in this site?

TMLWL is a Public Limited Indian Non-Government Company incorporated in India on 26 August 1936



2000



2010



2015



2023

Figure 2: Evolution of the site over two decades
Source: Google Earth

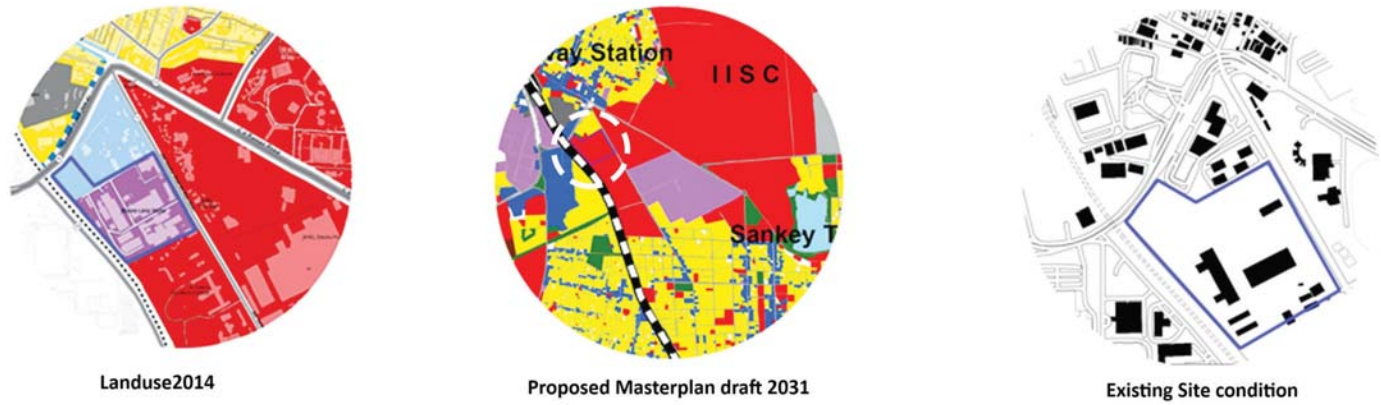


Figure 3: Change in land use from 2014 - Masterplan Draft 2031
 Source: Landuse map 2014; Revised Master Plan For Bangalore Development Authority 2031 (DRAFT)

spanning over an area of 29-acre and had a history of 87 years. However, the company ran into losses from 1985 onwards forcing it to shut down in 2002 (Bennett, Coleman & Co. Ltd, 2017). The evolution of the site over two decades is seen in Figure 2. The

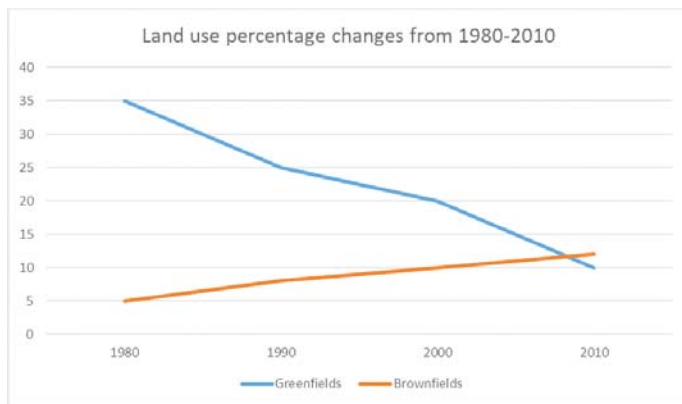


Figure 4: Recent trend in brownfield project
 Source: Report by Department of Architecture and Regional Planning, Indian Institute of Technology, Kharagpur

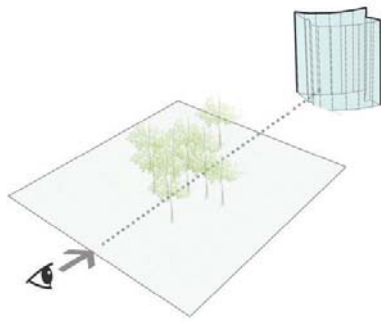
proposed Draft Masterplan, 2031 of Bengaluru has designated TMLWL as a public/semi-public land use zone, making it more suitable for the proposal (refer Figure 3). The site, currently having dilapidated structure, also engenders scope for brownfield development.

Industrial revolution and population growth has led to some pressing problems like pollution, environmental degradation and rapid urbanization, which ultimately led to some industries being shut down, leaving behind obsolete industrial infrastructure. Consequently, large vacant land parcels are found amidst bustling cities. Industrial zones which were formerly deemed as a vital part of daily lives turned into an obstacle within the ever growing cities. In the global context, brownfield lands have also been recognized as major contributors to gradual

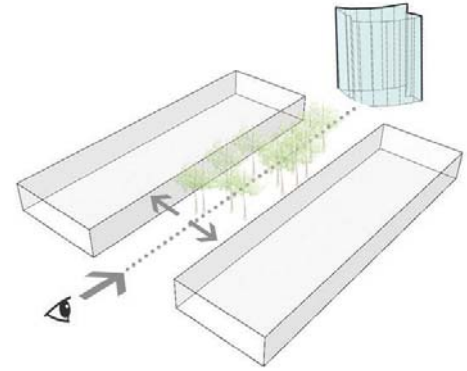
land decline by means of environmental, physical, social and economic negative effects. Brownfields have been regarded as precious opportunity for urban developers in order to bring a new value into a poor quality land parcels and create new sets of behaviour in the declined urban land parcels (Nia & Mehdipour, 2013). Brownfield projects not only generate desirable economic outcomes but they also have a positive impact on the land value of the surrounding context. As a result, public investment in brownfield redevelopment, regardless of type, does help erase the negative effect imposed by deindustrialization and helps cities restore and raise their property tax base on and around brownfield sites (Christopher De Sousa, 2009). One such study conducted by the Department of Architecture and Regional Planning, Indian Institute of technology, Kharagpur in collaboration with Massachusetts Institute of Technology, USA, shows that there has been a gradual increase in the Brownfield land use percentage over a period of three decades and states that this trend is expected to continue for the years to come (refer Figure 4).

4. Methodology

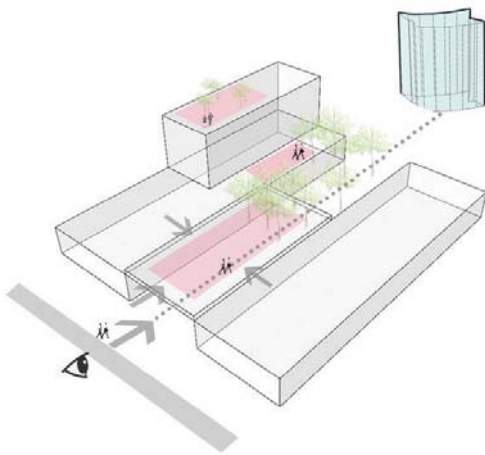
The data collection assessed both the qualitative and quantitative aspects. The study was backed by primary and secondary sources. In terms of primary data collection, the research involved visiting various case studies with regards to certain parameters to document the architectural features, building services and specific technical requirements for spaces such as workshops and laboratories (refer Table 1). Additionally, interviews and surveys were conducted with approximately 15 key stakeholders, lasting a total of 5 hours. The site was studied to identify proximal entry/exit points, map existing vegetation and assess site conditions with regards to its functionality in the context. The secondary data collection involved a comprehensive review of



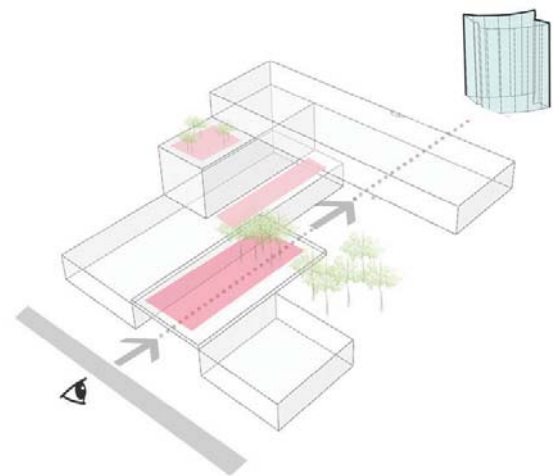
Existing site with vegetation & BWC in the background



Separation of massing based on function and site condition



Addition of central podium -plaza & breakout spaces to foster collaboration



Led to the massing that maintains visual connectivity with the site

Figure 5: Massing concept derived from site condition

Source: Author, 2023

academic papers, journal articles, and conference proceedings related to the typology. This involved searching through databases like Google, Google Scholar, academic journals, and conference archives to gather scholarly insights into the architectural and functional aspects of innovation hubs. Specific keywords and phrases such as “technical lab planning requirements, innovation centre and collaborative workspaces” were employed to identify factors that contribute to an enhanced user experience and foster a sense of collaboration.

5. Literature Review

5.1 Site level

Upon analysing the site level design regulations and interventions by the Bangalore Development

Authority, it is found that provision of loading/unloading bay for easy access of machinery is necessary along with wide service corridors with a minimum width of 6m to transport heavy machinery (Bangalore Development Authority, 2017). With regards to parking, on-site parking based on design requirements should be provided to prevent congestion on main road. In case of high-rise buildings, approach to the parking lot with an entry and exit of 3.5m each should be provided. Basement floors up to five levels may be provided for car parking. The width of the footpath should 1800 mm and minimum clear unobstructed path should be 1200 mm (Bangalore Development Authority, 2017).

5.2 Building level

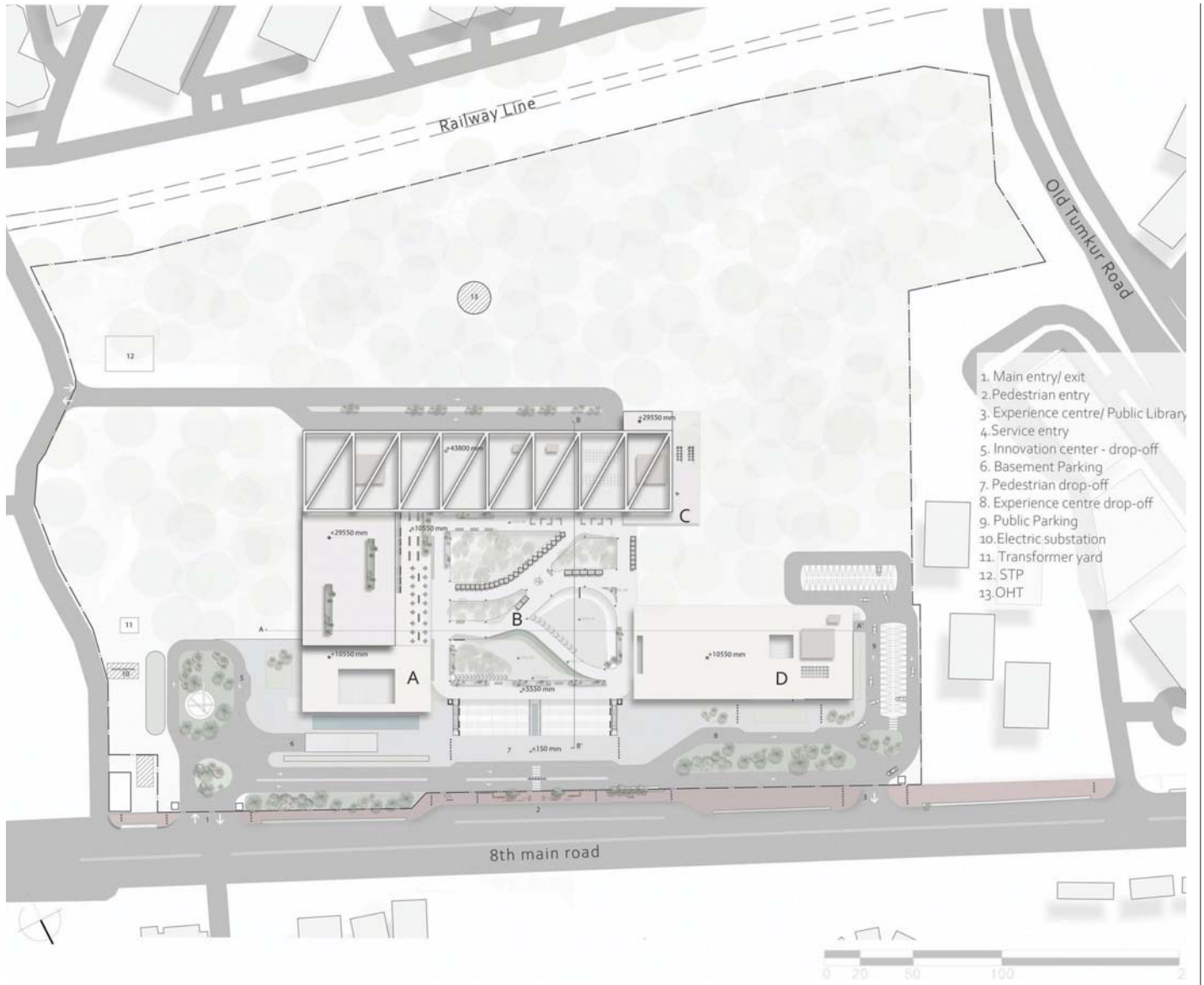


Figure 6: Proposed Intervention's Masterplan in Bengaluru
 Source: Author, 2023



Figure 7 : North Elevation possessing an inviting pedestrian entry to the site
 Source: Author, 2023

Table 1: Analysis of case studies

Source: Compiled from case studies by Author

PARAMETER	T-WORKS	K-TECH INNOVATION CENTRE	IIT – MADRAS RESEARCH PARK	NODEUL ISLAND
Location	Hyderabad	Karnataka	Chennai	Seoul
Area (sq.m)	19,829	3716	7246	9,619
Criteria for selection	Spatial analysis and Building program	Laboratory facilities and machinery requirement	Laboratory facilities and machinery requirement	Scope of brownfield regeneration
Context	Located in IT knowledge park and tie- up with 3 premium institutes.	Located in the Industrial zone in Bengaluru	Located along the IT corridor in ECR. Host Institute – IIT Madras.	Artificial island situated on Seoul's Han River.
Users	Administrative staff, Industry professionals, students	Administrative staff, Industry professionals	Administrative staff, Industry professionals, IIT Madras students	Students, artists, Public
Verticals	Hardware prototyping	Woodworking, metal working	Enterprise tech, fintech, deep-tech, EV mobility	Mixed-use (cultural, commercial, Institutional)
Collaborative Learning (Spatial wise)	Central atrium acts as a node for collaboration, the workspaces also have break out spaces at intermediate locations in each floor plate.	Not much scope for interactive spaces. Hence none provided.	Central courtyard acting as major node of interaction in the site level.	Central plaza acting as a node for interaction
Flexibility on configuration	Spatial modules modified for the needs (multi-functional)	Non-flexible. Fixed spatial layout for workshops and laboratory spaces	Not flexible in layout of office spaces. Separate office cubicles (Introverted planning)	-
Influence on design	Incorporation of collaborative spaces, multi-functional workspaces.	Workshop areas designed according to machinery requirements	Focused on creating extroverted workspaces to foster collaboration.	Inclusion of activities that benefit the users from the surrounding context.(Plaza for public interaction)

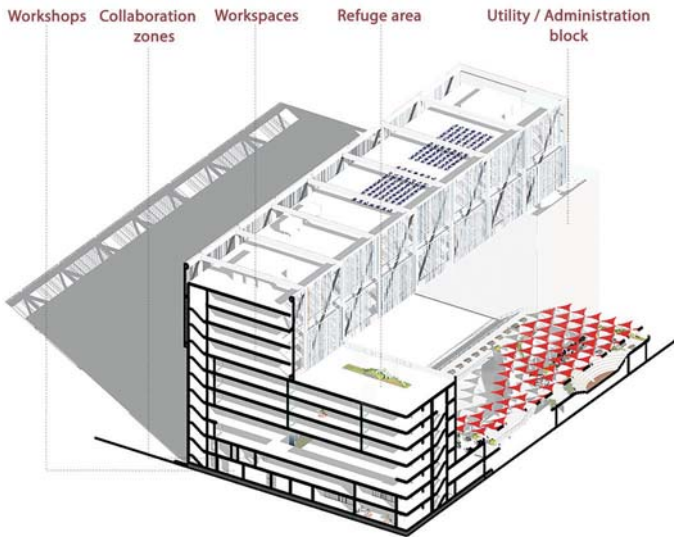


Figure 8: Axonometric section showing floor plates and vertical circulation

Source: Author, 2023

The National Building Code (NBC 2016) general requirements states that the minimum clear width of staircase should not be less than 2.00m (Bureau of Indian Standards, 2016). Laboratory spaces and workshops are to be located in ground floor for ease of mobility to minimise vibrations on the slab which may cause changes in the reading (Decker, 2017). In addition, while designing bio-tech wet laboratories, structural rigidity must be considered. Structural vibration can disrupt equipment operation and impact testing result (Metric Handbook, 2008). Since these workshops would require high consumption of water, plumbing capabilities must be increased and must accommodate certain type of waste (Decker,

2017). Other functional spaces such as workspaces, experience centre and public library should be separately provided to avoid confusion. Additionally, building regulation standards obtained from the draft Masterplan of 2031 restricts the height of the buildings to 60m thus providing the opportunity for a high-rise structure (refer Table 2). Apart from the prescribed norms examined from the primary and secondary sources, the Development Control Regulations (DCR) of Bengaluru has greatly impacted the design at the building and site level.

6. Discussion

The findings from the above studies have resulted the underlying concept driving this facility's design as a departure from the conventional workplace paradigm. It endeavours to infuse vitality into the workspace by introducing break-out spaces and collaboration zones, both within the building and at the site level. These innovations emerge as a response to a thorough analysis of the site's unique conditions and contextual factors.

6.1 Site level Interventions

Taking into consideration the existing site conditions along the property line, the pedestrian entry is strategically located to garner attention from the general public (existing bus stop, play area; refer Figure 6). The central podium arose as a design response to the existing dense vegetation. This design solution not only creates pockets for the existing trees but also doubles up as a plaza unifying the different typologies which fosters public interaction and collaborations (refer Figure 5). This assumes a symbolic role in endowing the facility with a monumental effect

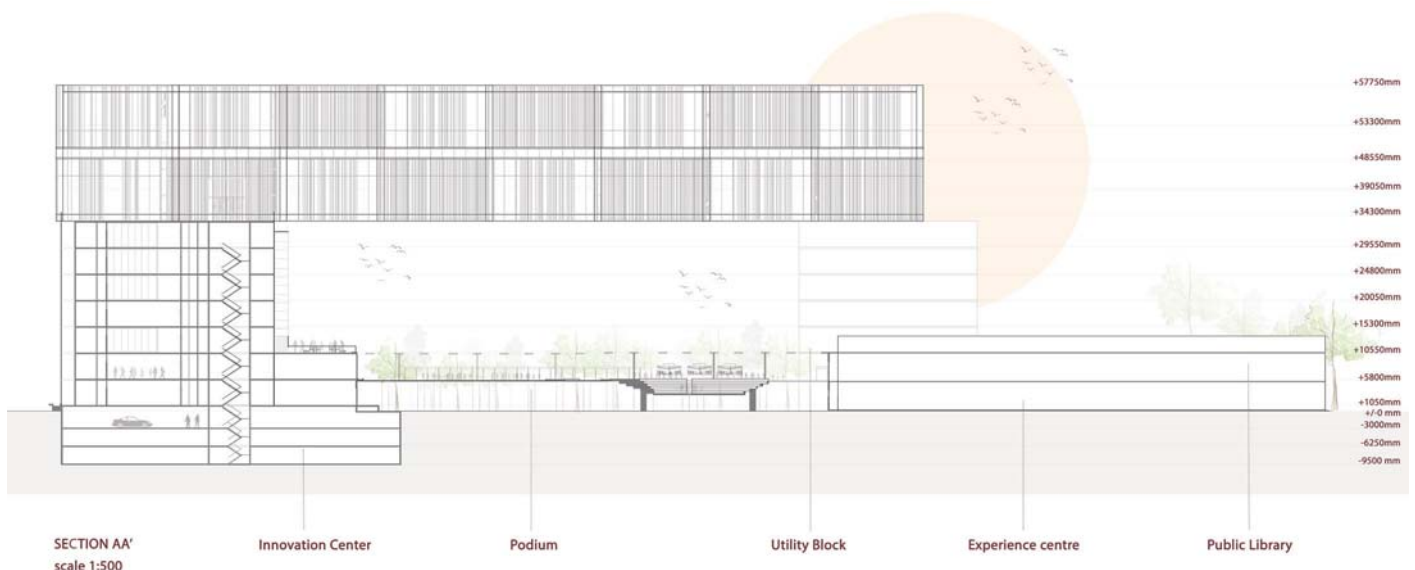


Figure 9: Section showing the podium connecting innovation centre and experience centre

Source: Author, 2023

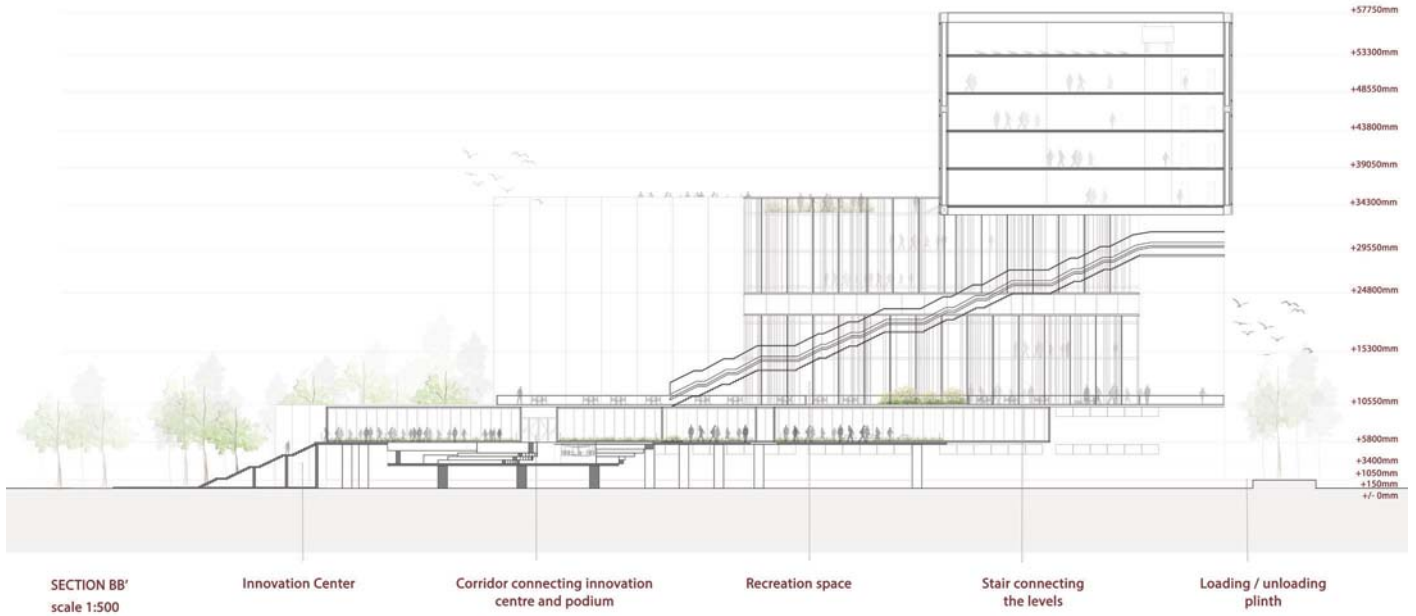


Figure 10: Section through the central podium.
 Source: Author, 2023

Table 2: Building regulations

Source: Bangalore Development Authority - Proposed Masterplan Draft 2031, Author

BUILDING REGULATION PARAMETERS CONSIDERED IN DEVELOPMENT CONTROL REGULATIONS (DCR)	OUTCOMES
Site Area	97,124 sq.m
Allowable Floor Area Ratio (FAR)	2.25
Allowable Ground Coverage (GC)	45%
Allowable Built-up area	2,18,529 sq.m
Mandatory Setbacks (front, rear, side)	11m
Height Restriction	60m
Parking Requirement	1.8 / 100 sq.m of floor area
Number of floors	10
Category of building in DCR	PSP-3 (Research Institution)

which in turn improves the imageability and creates an inviting frontage to the site (refer Figure 7).

6.2 Building level Interventions

In response to the site context, the primary aim of the overall massing was to maintain visual connectivity, setting a frame of view for the users traversing along the 8th main road (refer Figure 7). Deriving inspirations from the primary and secondary sources, the ground floor of the innovation hub consists of workshops and laboratory facilities catering to different needs (refer Figure 8). The central podium, acting as a node for public interaction for the whole site, resulted in arriving at a building program in which the first level

acts as a collaboration space making it a public zone (refer Figure 9). The concept of the building elevation is to articulate the idea of solid and void. The solid portions are treated with polycarbonate sheets that bring in transfused/filtered light but not heat into the workspace. The void portions are treated with aluminium louvers attached to glass panels that showcase a play of light and shadow through the day (refer Figure 10). In order to break the monotony of straight lines on the Eastern façade, mild steel (MS) staircase that connect 3rd, 4th, 5th and 6th levels of the innovation centre to the second level, adds a dynamic effect to the whole façade (refer Figure 10). Energy-efficient methods like solar panels and

passive illumination through the polycarbonate sheets on the facade, have also been incorporated in the design process.

7. Conclusion

This research has yielded critical insights that significantly inform the strategic planning and design considerations of both the site and building levels. These findings, have served as guiding principles in designing the innovation hub that not only meets its operational objectives but also does so with a finesse that is attuned to the demands of its intended functions. The resultant edifice is poised to elevate operational efficiency, safety, and the overall experiential quality for the users, residents within its precincts or for those who traverse its corridors. These elements contribute substantially to the sensory experience of the facility's users. Being a community-driven Innovation hub, it would serve as a node for Tech enthusiasts, students and public and also a booster for budding start-ups. The interplay between these design elements transforms the facility into a dynamic and inviting space, transcending the sterile confines of conventional workspaces. It fosters creativity, encourages collaboration, and elevates the overall experience for its users. In conclusion, this proposal embodies a holistic approach to contemporary workspace design, one that recognizes the symbiotic relationship between the built environment, human interaction, and nature, thereby redefining the boundaries of what a modern workplace can and should be.

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Introducing AI into Professional Practice

By Ar. Ishaan Sood

1. The Evolution of AI in Architecture

Artificial intelligence (AI) has been incorporated into many fields, especially in architecture in a spectacular way, changing how architectural practices plan and realise design ideas. The progression of AI's involvement in architectural processes may be characterised through distinct stages, each of which was defined by notable innovations and advancements. As a result, efficiency, sustainability and personalization are all improved by the advancement of AI in architecture, which is a path from automation to creative partnership. Architects are prepared to embrace an age where human creativity and AI's computational skills interact, altering the built environment in unprecedented ways as its capabilities continue to grow.

This article delves into a contemporary approach to design that seamlessly incorporates AI into the creative process. In this context, AI doesn't dominate but rather collaborates harmoniously with human creativity, resulting in enhanced efficiency. In the realm of design, AI serves as a powerful ally, amplifying designers' capabilities without supplanting them. This partnership allows AI to support and streamline tasks, freeing up designers to focus on their uniquely human skills like ideation, emotional resonance and imaginative thinking. Through real-world examples, this article illustrates the transformative potential of this collaborative approach, emphasizing how AI optimizes workflows, boosts productivity, and empowers designers while preserving the essence of human creativity. In a rapidly evolving landscape,

this integration of AI into design practices showcases adaptability and progress, positioning designers at the forefront of innovation. This article, maintaining a clear and accessible tone, explores this evolving paradigm, guiding practitioners toward harnessing AI's potential while preserving the core of their creative work.

2. Experience with AI in Research

I have been actively engaged in research for the past year, using AI to improve the quality and progress of the work. The use of AI in cooperation has continuously improved over this period.

Figure 1 (you can see the quality) illustrates the primitive and imprecise instructions I used to direct the AI when I first started this adventure in mid-2022. I was initially more interested in investigating the potential career paths and opportunities that AI might present. The main goal was to find strategies for achieving the best results and to determine the best suggestions for doing so. The AI's initial results weren't always consistent with expectations. These initial setbacks, nevertheless, did not stop me. I investigated and used different AI engines, such as Midjourney, Dall-E, Bing AI, Stable Diffuser, Vizcom, Stocking.AI, etc., to enhance and optimize the approach (Figure 2), putting in countless hours and months of effort.

AI has come a long way in increasing its quality and presenting much more detailed renders. I came to a crucial revelation after a year of diligent research during which I dug into a variety of themes



Figure 1: Initial Stages of Research for Futuristic Cities Via Midjourney (2022)

pertaining to buildings' potential futures. It became clear that the intricacy of the presented prompt is not necessarily a determining factor in how effective AI is. Surprisingly, with the appropriate approaches, even a simple prompt could provide outstanding outcomes. This exploration and development process demonstrates that although AI has great potential, its results are not only influenced by the complexity of the prompts. Instead, judicious, and planned use of AI combined with steadfast work can produce fruitful and informative outcomes. This progression from initial difficulties to better results illustrates the subtle interactions between AI, rapid formulation, and the researcher's active participation.

I am still committed to researching futuristic ideas and possibilities moving forward. I am also increasingly integrating these AI tools into professional practice. By capturing pertinent keywords from client meetings, they are proving to be useful resources for research and helping to create mood boards. This incremental AI integration fits well with the commitment to maintaining the cutting edge of research approaches and improving the caliber of the work.

3. Inducing AI into Design Practice

Over time, I have mostly used artificial intelligence



Figure 2: Futuristic Cities Via Bing AI (2023)

(AI) for research in professional design practice. In a recent instance, Bing AI was used to help create a mood board for a new project. I was able to do this by giving the AI a precise prompt that captured the important ideas that were discussed and emphasized during a client meeting. The results produced were very good and gave me a big head start, giving me more time to encourage creativity and consideration in the design approach. I take care to establish a balance, though, so that AI doesn't supplant one's creative thinking.

As a young architect working in the field, it gives me great joy to approach each project from a novel and creative angle. This project is particularly fascinating because the client requested a combination of many design elements. I am inspired by this challenge to push the limits of the imagination.

This is the first time I have incorporated the AI revolution into the design practice, despite having been active in AI research for a year. Innovative technology was chosen to be incorporated into the design process, and therefore, a vibrant and motivational initial mood board was produced. This mood board (Figure 3) presents a variety of architectural options that work in perfect harmony with the result the client had in mind.

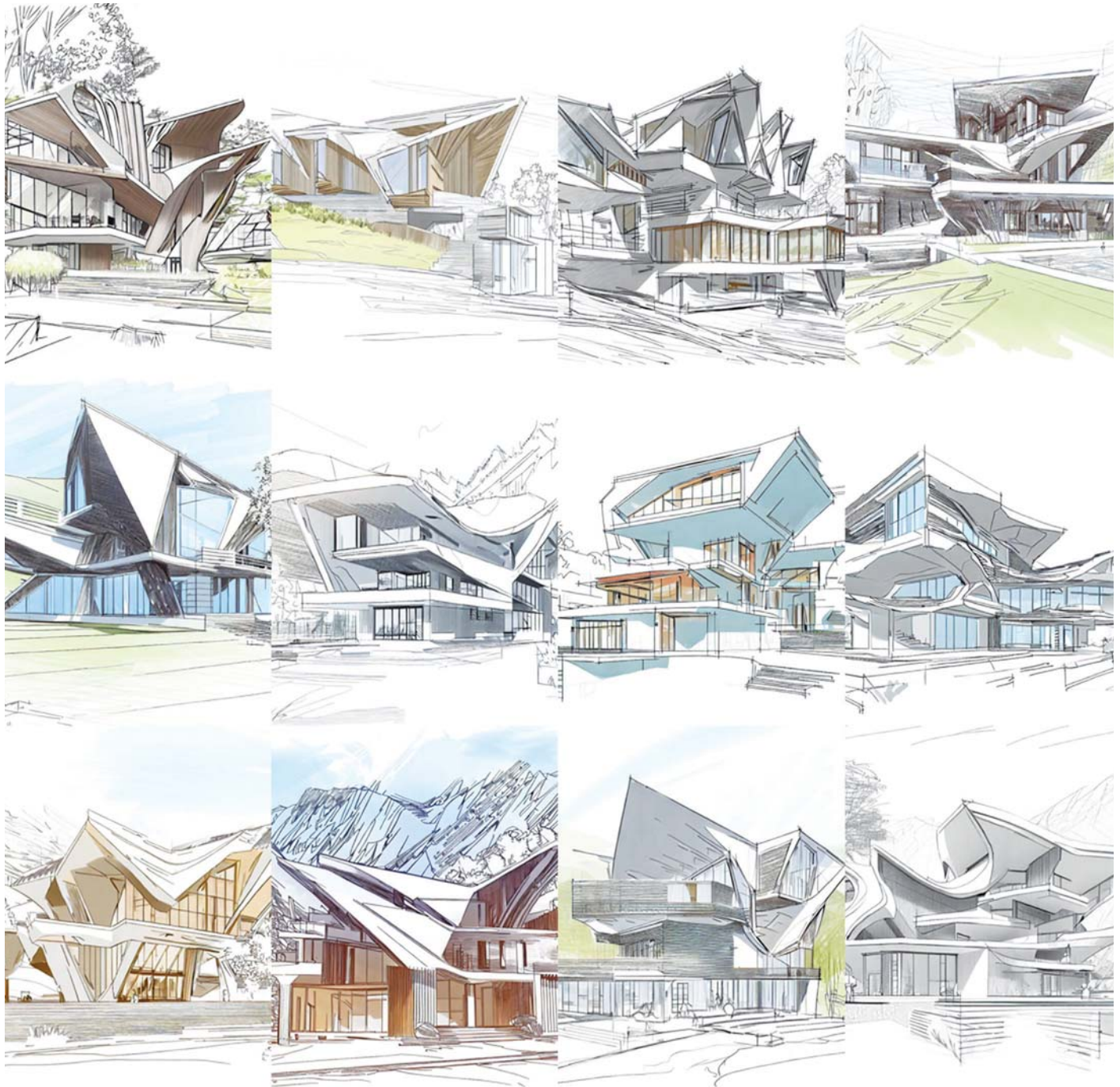


Figure 3: Mood Board for a Guest House in the Mountains

I purposefully avoided drawing inspiration from pre-existing structures by creating a prompt that resulted from our collaborative conversations during the client meeting. By taking a calculated approach, I was able to save critical research time while also freeing up more of the energy for coming up with creative design solutions. The project itself exemplifies a lovely fusion of art and technology. It captures the love of cutting-edge ideas interacting with AI's limitless possibilities. The combination of these components has produced a remarkable

architectural journey that is sure to enthrall and excite all project stakeholders.

My dedication is to constantly improve my knowledge of architecture and design. I am committed to remaining knowledgeable about the most recent trends and advancements in these sectors. A further goal of mine is to seamlessly merge professional practice with AI capabilities and to give a futuristic approach to the practice, embracing this fusion wherever it adds value and innovation.



Figure 4: Mood Board for a Residential Extension from sketch to render via Vizcom

The guiding premise of the strategy is ‘Think Globally, Act Locally’. This guiding principle means that I start the design projects locally, where I can respond to the requirements and settings of the people I work with. This localized viewpoint acts as the cornerstone on which I construct solutions that can cross geographical boundaries and have an important impact on a large scale.

The integration of AI into practice has enormous potential to improve the design workflow and broaden the range of creative options. But when I set out on this adventure, I am careful to protect the integrity of the artistic vision and make sure AI works as an enhancement rather than a replacement. Through architectural and design endeavors, I hope to contribute to the improvement of our world. I want to create designs that not only enhance environments but also empower communities and significantly improve the world by fusing innovation with local knowledge and taking the larger global context into account. I try to live up to the motto ‘Think Globally, Act Locally’ through the work because I know that everything we do has an effect that goes well beyond our immediate environment.

The nascent AI revolution holds considerable potential for further refinement and expansion.

Embracing these versatile tools has become imperative for designers and individuals alike as we navigate the evolving landscape. AI remains a focal point of discussion across various industries, eliciting both staunch proponents and vocal critics.

In my exploration of this domain, I have reached a resolute conclusion: the critical factor lies in our capacity to discern the nuanced boundary between AI’s capacity to enhance our capabilities and the potential for it to exert undue control. Establishing self-imposed boundaries for the utilization of AI and its applications is paramount. When employed judiciously, AI has the power to not only optimize design processes, rendering them more efficient and effective, but also to serve as a constant reminder of the importance of innovation in our work. As my research and experimentation continue, I remain committed to pushing the limits toward a more sustainable and efficient world. My aspiration is to foster an understanding that AI’s dominance is contingent upon our consent. By embracing responsible integration, we can ensure that AI remains a valuable tool rather than a potential overlord. The power to shape the future of our professional practice lies not in AI’s hands but in our own choices and innovation. Let’s grow together!



Figure 5: Sketch to quick render

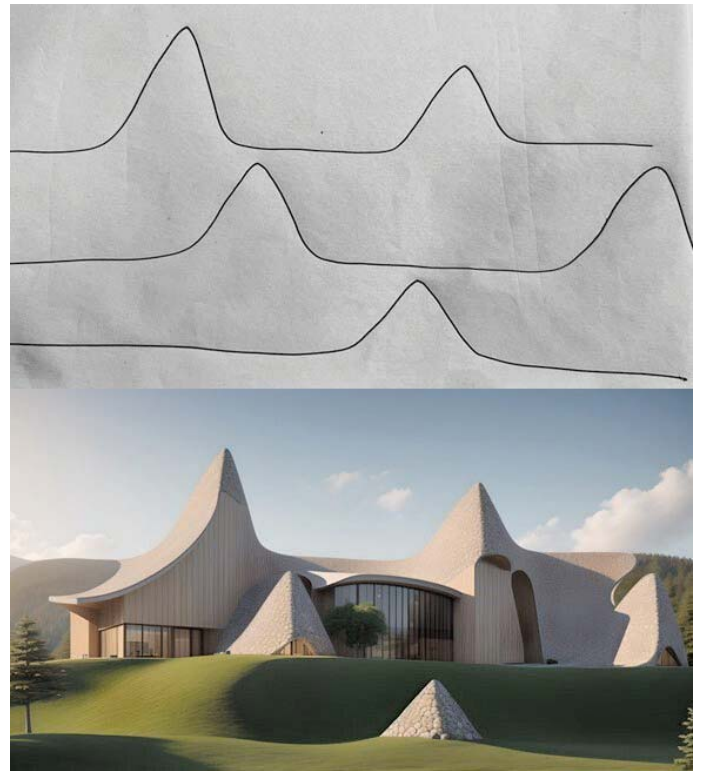


Figure 6: Lines to quick render - Just simple lines with an apt prompt can give you an interesting form.

All Images courtesy: Author



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क्या होता है आर्किटेक्चर में पढ़ना पढ़ाना...

Dr. Ujwala Chakradeo
Vice Chancellor, SNTD

मुझे कहा गया, पाँच मिनट में तुमसे अपनी बात कहूँ।
कैसे कहूँ?
मुझे तो आदत है, एक एक घंटा
आर्किटेक्चर का छोटासा पहलू कूट कूट के सुलझाने की,
तुम्हें समझता है की नहीं, नहीं पता,
पर अंततः मैं खुद उलझ जरूर जाती हूँ।
आर्किटेक्चर क्या है, आजतक समझ नहीं पाई हूँ...।

पाँच साल में जो हम सब मिलकर भी नहीं समझा पाते तुम्हें
वो पाँच मिनट में तुम तक पहुँचाने का प्रयास अब करती हूँ...

क्या होता है आर्किटेक्चर और
क्या होता है उसमें पढ़ना पढ़ाना...

ड्राफ्टिंग में 'T' स्केल बायें हात से दबाना
दायें हात से 'B' पेन्सिल घुमाते हुए
सिधी लाइन निकालने से लेकर माऊस पर
Ecotech की रंगीन परछाईयों में environment बचाना।
क्या होता है आर्किटेक्चर में पढ़ना पढ़ाना।

रात रात जागकर Design मुकम्मल करना
और ऐन submission के वक्त पर प्रिन्ट का गलत निकलना
3rd year के WD में लाईन वेट ढुँढते रहना
की फायनल year में thesis वास्ते issues खोजना।
क्या होता है आर्किटेक्चर में पढ़ना और पढ़ाना...
खिडकी की उस पार से, दिवार की उभार से
perspective के झाड में elevation छुपाना
की सायोग्राफी की धूप में, रंगों की आडसे,
workshop में काटते कटाते,

आर्किटेक्चर का From समझना...
क्या होता है आर्किटेक्चर में पढ़ना पढ़ाना...
जरा मुझे भी समझाना

साईट visit के नाम से class से भाग जाना
foundation की गहराईयों में
friendship reinforce करना
बालकनी के cantilever को टेरेस में तबदील करना
और सेक्शन की दुनिया को कभी भी ना समझ पाना
क्या होता है आर्किटेक्चर में पढ़ना और पढ़ाना...

सौ कोशीश के बाद भी viva में ना बोल पाना
तुम्हें कहा था ना ये sketch कभी ना दिखाना
external के सामने टीचर का झुटमुट ही सही
पर जोर से डाँट लगाना
क्या यही होता है architecture में पढ़ना और पढ़ाना....

Study tour के मसले को पैसों में तोलना
आता जाते ट्रेन में खुद के साथ लोगों को भी जगाना
Documentation के sheet पर topo से मार्क लाना
Submission के टाईम पर चंदा को फुसलाना
क्या होता है Architecture में पढ़ना और पढ़ाना...

सर्दियों की रातों में,
नासा के बक्से को तकीया बनाकर
एक ही रजाई में दस जनों ने स्टुडीयो में ही सो जाना
भूक लगने पर ब्रेड में चिवडा डालकर sandwich बनाना
और ANDC में short listing होने पर जम के खेशियाँ मनाना
क्या होता है आर्किटेक्चर में पढ़ना पढ़ाना...

हरबार! हरबार समझाया तुम्हें की
आर्कीटेक्चर को आर्कीटेक्चर की नजरीयों से देखना सिखो
हाथ में कलम नहीं आँखों में सपना सिंचो...
वो तुम्हें तुमसे मिलाने की अहमियत रखता है।
रंग फुल बहारों से तुम्हारी दुनिया गुलजार करना जानता है
उस architecture को समझो और हमे भी समझाना सिखो...

तुम्हारे साथ दो कदम चलते चलते ही तो,
हमने उसे थोडा जाना है,
तुम्हारे साथ रहकर ही उसे और बहुत जानना है
उसे जानने की ख्वाइश कभी कम ना हो
हाथ जोडकर तुम्हे सिर्फ यही तो बताना है।
क्योंकी ये आर्कीटेक्चर है मेरी सखियों
क्योंकी ये ही तो जिंदगी है...
बस यही
मगर...

आसमानों की बुलदियों को छुना अभी बाकी है
नागपूर जैसे शहरो को heat island को भेदना है?
sustainability का अर्थ जानकर सही मायने में
खुशहाली लाना अभी बाकी है।

Statue of Unity तो बन गई
सूर्य मंदीर से लेकर ताजमहल से हो कर
भारत के पावन भूमीपर
अपनी भी निशानी फैलाना अभी बाकी है।

पहचान तो अपनी बनानी ही है
पर देश क्या दुनिया के आखरी छोर तक
हर एक आदमी को अपना छोटासा घर दिलाने की
क्षमता तुममे और मुझमे आना अभी बाकी है।

Concrete और काँच के इन जंगलों को उखाडकर
एक हसता हरीयाला जहाँ
बसाने का सपना देखना अभी बाकी है।

सखियों...
तुम और हम मिलकर ये जिंदगी बदल सकते है...
ये सब कर सकते है
ये विश्वास जगाना अभी बाकी है।
क्या होता है आर्कीटेक्चर में पढना और पढाना...
ये थोडा और जानना जरूरी है
जानना अभी बाकी है।



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Crafting Timeless Spaces

A Creative Journey with Insitu Design Studio

Ar. Sahiba Madan

In the vibrant city of Mumbai, where architecture and design thrive, Insitu Design Studio stands out as a beacon of creativity and innovation. Insitu Design Studio is a multidisciplinary design practice, encompassing architecture, interior design, and space planning. The studio's unique philosophy revolves around the concept of crafting in place, a concept deeply rooted in my background and experiences.

I embarked on my architectural journey at the Kamla Raheja Vidyanidhi Institute of Architecture in Mumbai, where my skills and passion for art and drawing were nurtured. My academic years laid the foundation for the unique approach that defines my work today. In 2012, I earned my Bachelor's degree in architecture and set forth on a career in design. The roots of my practice and its design philosophy can be traced back to my graduation project titled 'Hidden Hands: Reconfiguring Roles of the Architect and Craftsmen.' This project delved deep into the intricate relationship between craftsmanship and design, emphasizing the pivotal role of traditional craftsmen as bearers of invaluable skills and knowledge. My own practice and journey has been a process of experimentation with materials and mediums to develop a unique design and visual language. My extensive exploration of this theme sowed the seeds of my future endeavors and set me on a path of design evolution.

Before founding Insitu Design Studio, I gained invaluable experience by working with renowned architecture firms such as Studio LAB and Abraham John Architects. These formative years not only enriched my knowledge but also ignited my desire to challenge the conventional boundaries of design. My



Figure 1: The living room of Wada House showcasing a rich variety of materials and handcrafted furniture lending warmth to the space.

Picture Credits: Kuber Shah



Figure 2: Elements of nature seen in the indoor plants and the wall backdrop of the entrance foyer, echoing the outdoor greenness of the Malabar Hill home in South Mumbai.

Picture Credits: Kuber Shah

experiences with these firms were instrumental in shaping my vision for my maiden venture, Kalakaari Haath, a prominent home decor and furnishing brand. This venture allowed me to experiment with materials and mediums, gradually developing my own unique design and visual language. The ethos of Kalakaari Haath and its resonance with Insitu Design Studio's design language are central to understanding my evolution as a designer.

As a trained architect with a strong foundation in design philosophy, I seized the opportunity to design a family home, thereby initiating my architectural practice, Insitu Design Studio. The underlying philosophy of the studio can be summarized as the constant reimagining and challenging of the potential of materials and crafts, which ultimately reconfigures the roles of architects and craftsmen. This rigorous process of design is underpinned by a commitment to reinvention with consciousness, resulting in spaces that exude warmth and nostalgia.

Design Approach

The studio's approach to crafting spaces involves a meticulous blend of effective space planning, simple



Figure 3: Earthy tones and natural textures of Residence 901

Picture Credits: Yadnyesh Joshi

yet impactful design gestures, and clean forms. The goal is to create a sense of timelessness in every project. My profound love for a modern-Indian aesthetic and a natural inclination toward sustainable design allow Insitu to seamlessly fuse old and new elements, crafting cohesive homes. These spaces come to life through the collaboration between a client's vision and my aesthetic and technical prowess. At the heart of Insitu Design Studio's creative process lies the commitment to crafting unique and timeless spaces. This commitment is manifest in a series of guiding principles:

Impactful design gestures and clean forms: The studio believes in the power of simplicity through the use of clean forms and impactful design gestures. We promote uncluttered, harmonious environment enhanced with gestures are thoughtfully integrated into the design, creating focal points and a sense of visual balance in each space. This simplicity contributes to the overall timelessness of the design, ensuring that it remains relevant for years to come.

Effective space planning: The studio prioritizes effective space planning, ensuring that every inch of a

space is utilized to its fullest potential. This approach creates functional and aesthetically pleasing environments that resonate with the occupants.

Modern Indian aesthetic: The studio's love for a modern Indian aesthetic shines through in its projects. This aesthetic combines elements of contemporary design with traditional Indian motifs and materials, creating a unique visual language.

Blending the old and new: The studio's ability to seamlessly blend old and new elements within a space is a testament to its design versatility. The studio brings together traditional craftsmanship and modern design sensibilities to craft cohesive and inviting environments.

Sustainability in Design: Sustainability is not just a buzzword for the studio; it's a core principle. The studio places a strong emphasis on environment-friendly materials and practices, striving to minimize its environmental footprint in every project.

Nature as inspiration: Nature has consistently played a pivotal role in our design journey, often serving as a wellspring of inspiration. Nature's essence is woven into Insitu's design concepts, manifesting in earthy materials and complementary color palettes. I draw from the organic world, embracing the aesthetics of nature to champion traditional crafts, materials, and artisans. The result is a seamless blend of the natural world and human craftsmanship, reflecting an unspoken harmony in every project.

Collaborative Synergy

The convergence of Insitu Design Studio's design principles and Kalakaari Haath's brand ethos is a testament to the powerful synergy of creativity and innovation. Insitu and Kalakaari Haath have found a unique way to collaborate, transcending the boundaries between home and product design. Our collaboration is thoughtfully detailed, curated with precision and passion by me and expert designers. This collaboration elevates the lived experience of any space, making it a testament to the seamless union of two design powerhouses.

Kalakaari Haath's extensive product range is thoughtfully curated with a discerning eye for design. The range of products are a manifestation of creativity, aesthetics, and functionality, making them an integral part of Insitu's design philosophy. The product range includes an array of items such as wallpapers, wall decals, wall art, upholstery and curtain fabrics, all meticulously selected and designed to complement and enhance Insitu's interior designs. This collaboration bridges the gap between design

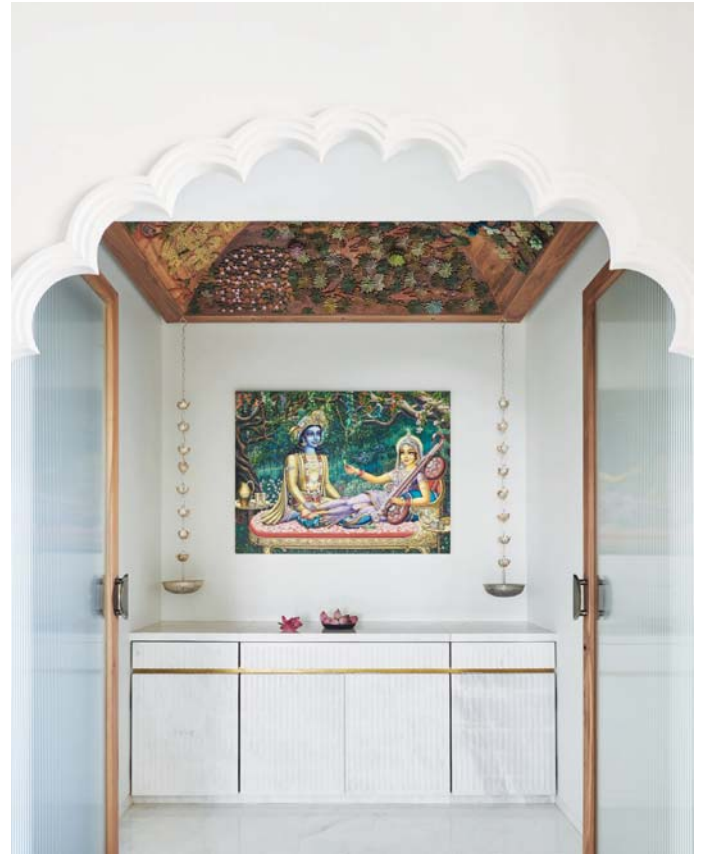


Figure 4: Clean forms highlighted with the elaborately embellished ceiling at the shrine of the Vrindavan Home.

Picture Credits: Suleiman Merchant

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Figure 5: Mixed media artwork by Kalakaari Haath depicting a scene from Vrindavan

Picture Credits: Author

and product, resulting in a comprehensive and cohesive approach to crafting timeless spaces.

One of the defining features of Insitu's projects is the harmonious balance between a client's vision and my aesthetic, forming an intricate balance. My team and I possess a unique ability to translate a client's desires and aspirations into tangible design solutions that not only meet but often exceed expectations. This seamless integration of the client's vision into the design process is a testament to Insitu's client-centric approach.

Art and Craft in Design

Our practice is a testament to the transformative power of design philosophy and creativity. Drawing inspiration from the intrinsic connection between craftsmanship and design, our studio has redefined the roles of architects and craftsmen. The studio's commitment to reinvention with consciousness, love for a modern-Indian aesthetic, and sustainable design principles have resulted in timeless and inviting spaces that bear the mark of nature and artisanal craftsmanship.



Figure 6: Nature-inspired wall covering by Kalakaari Haath
Picture Credits: Author

My aesthetic plays a crucial role in the design process, acting as the guiding light that ensures the design remains cohesive, timeless, and aligned with the studio's philosophy. My sensibility is deeply rooted in a love for modern-Indian aesthetics and an innate understanding of sustainable design. This sensibility influences material choices, color palettes, and design elements, resulting in spaces that resonate with the occupants and stand the test of time.

Art, sculptures, and indoor plants are integral components of our design philosophy. These elements are not mere embellishments but essential aspects of our approach to crafting spaces. The curation of art and sculptures is carried out with a keen eye for aesthetics and a deep understanding of how these elements can enhance the overall atmosphere of a space. Indoor plants, on the other hand, bring a touch of nature indoors, reinforcing our commitment to incorporating natural elements. Plants infuse life into a space, improving air quality, and creating a sense of tranquility. The careful selection and placement of these elements are key to our approach to design, ensuring that each project reflects the unique personality and preferences of its occupants.



Figure 7: Modern Indian aesthetic seen in the master bedroom of Residence 1104.
Picture Credits: Kuber Shah



Figure 8: Timeless elegance of the Mumbai Bungalow.
Picture Credits: Suleiman Merchant



Figure 9: Blending of old and new elements in the informal living room of Mumbai Bungalow.
Picture Credits: Suleiman Merchant

The collaboration between Insitu and Kalakaari Haath has further amplified the impact of our design philosophy. The thoughtful curation of home decor and furnishing products by Kalakaari Haath seamlessly complements Insitu's design concepts, creating a holistic approach to crafting spaces. The



Figure 10: Timeless elegance and warmth in the Chowpatty Residence interiors
Picture Credits: Suleiman Merchant

fusion of a client's vision with my aesthetic sensibility ensures that every project is a harmonious blend of individuality and timelessness.

As we continue to thrive and expand its footprint across multiple cities in India, it serves as a shining example of how design can transform spaces and lives. The studio's dedication to creating environments that evoke warmth, nostalgia, and a deep connection to nature is a testament to the enduring power of design to shape our world. Our journey is a testament to the possibilities that emerge when craftsmanship, nature, and innovation converge in the world of design.



Ar. Sahiba Madan (applied for IIA registration) is the principal architect and founder at Insitu Design Studio, an award-winning practice thriving on the age-old idea of crafting in place. Sahiba completed her Bachelors in Architecture in 2012 from KRVA, Mumbai. She is a founding partner of Kalakaari Haath (2014), a home decor and furnishing brand.
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Nurturing Young Minds

By Ar. Keshav Chikodi, Ar. Uday Satavalekar, Ar. Anand Sahastrabudhe

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World Architecture Day (WAD) was created by the International Union of Architects (UIA) in 1985 and is celebrated on the first Monday of October along with UN World Habitat Day. This WAD seeks to draw the attention of professionals as well as the community to problems concerning cities and habitat. The theme for this year was 'Architecture for Resilient Communities' and the IIA National Team had mandated all Centres and Chapters to celebrate this day by connecting with the community.

Architecture in Bharat has been considered a classical art since ancient times. Our ancestors have expressed the way of life, their thoughts and ideas, history, culture and religion through various architectural marvels. Be it the rock-cut, monolithic Kailash Temple at Ellora or the Ranganathaswamy Temple built on a vast plinth, or the grand palace like the Lakshmi Vilas, or the wells of Adalaj dug several storeys underground, architecture is included in every way of life. During our childhood school picnics, children used to visit historical monuments like Shivneri Fort, Raigad Fort, Ajanta Ellora caves, etc. But in recent times, these historic buildings have been replaced by resorts, theme parks and waterparks. Although Indian architecture is introduced in the school curriculum, it does not seem to be described in depth. The Statue of Liberty in USA that was completed in the year 1886 is about 137 years old, while the rock-cut Kailash temple that was completed around 773 CE is about 1250 years old and is still standing. The Kailash temple has stood the test of time but our children are not aware of this ancient architectural marvel. Hence the Centre felt it necessary to introduce the rich architectural and sculptural heritage of India to our future generation.

Of all the elements in society, students are the most flexible, like wet soil. Therefore, the changes that we want to make in the future should start from these innocent children. Preserving our architectural heritage is extremely important as they provide future generations with a sense of identity and continuity in a rapidly changing world. But when we visit our historical buildings, along with the beautiful sculptures carved on the stone, the pictures of its defacement by today's generation comes to the fore. No intelligent and cultured person would draw such ugly pictures on his belongings or on something he considers important. Therefore, if we give proper information about our historical buildings to this future generation and convince them of its importance, there is no doubt that these buildings will feel like ours to them and the students will force their parents to change along with them.

This year, 2 October was the first Monday of the month, and on the same day, World Architecture Day was celebrated. This day is a very important day for India as two great leaders of our country were born on this day, Mahatma Gandhi and Lal Bahadur Shastri. Gandhiji taught the country about peace and *ahimsa* and Lal Bahadur Shastri gave the important lesson of revolution. Since both occasions coincided this year, IIA Kalyan-Dombivli Centre decided to connect with society in a unique way by organizing a drawing competition for the students of classes 8 to 10 with the theme "My Favorite Heritage Building and Why". The jurors were artists Ram Kasture and Umesh Panchal. The students were expected to draw the heritage building in any medium and also write couple of sentences about why they liked this particular heritage building. This was an attempt



Chief Guest of Exhibition Inauguration Ceremony Dr. Ulhas Kolhatkar along with Ar. Keshav Chikodi, Ar. Uday Satavalekar, Ar. Dhanashree Bhosale, Ar. Ankur Shetye, Ar. Anil Bhingarde and Jury Ram Kasture.



Chief Guest Ar. Vilas Avachat, Guest of Honour Ar. Sandeep Prabhu, Ar. Rajeev Taishtye, Ar. Keshav Chikodi, Ar. Uday Satavalekar and Ar. Shirish Nachane in Exhibition hall at Balbhavan, Dombivli.



Chief Guest Ar. Vilas Avachat, Guest of Honour Ar. Sandeep Prabhu, Ar. Keshav Chikodi, Ar. Uday Satavalekar, Jury Ram Kasture and Jury Umesh Panchal along with winners of 8th, 9th and 10th standard students.



Chief Guest Ar. Vilas Avachat, Guest of Honour Ar. Sandeep Prabhu, Ar. Keshav Chikodi, Ar. Dhanashree Bhosale, Ar. Uday Satavalekar, Jury Ram Kasture and Jury Umesh Panchal along with winners of special category.

to increase their curiosity and interest about our architectural heritage. Since the students may not have visited such heritage structures, after the jurors' consent, the children were given the option of bringing a picture of the heritage structure. In today's digital age, one of the objectives that can be achieved by holding drawing competitions is to preserve the craftsmanship and artistic skill. At least one representative of the Centre visited each school and carried out this initiative with the help of school teachers.

537 students from 19 schools participated in this competition. Out of these, two schools had differently-abled, special students to whom IIA KD Centre donated drawing kits. Through this drawing competition, we tried to give back to and connect with society. The art teacher of one of the differently-abled schools, Kshitij at Dombivli, is differently-abled

himself and has overcome many challenges in his life. To see him helping others overcome their challenges was and inspiring.

The IIA representatives interacted with the children on the topics of heritage buildings, architects and architecture of India and enhanced the experience of the competition. Equally remarkable was the participation of schools, teachers and their students. All were extremely happy and satisfied to see the children engrossed in their artwork. The supervisors learnt new techniques and methods of painting from these children and were inspired to draw and paint again.

The purpose of this activity was to introduce the children to our rich architectural heritage, convince them of the importance of preserving this heritage, create awareness about IIA and interact with them about architecture and the contribution of an

S. No.	Name and address of the School	IIA Member representative visiting the School
1	Model English School, Dombivli (East)	Ar. Keshav Chikodi
2	Model English School, Vishnunagar, Dombivli (West)	Ar. Salil Joshi
3	Model English School, Kumbharkhan pada, Dombivli (West)	Ar. Swati Nachane & Miss. Sharlin Jadhav
4	GEI's Blossom International School, Dombivli (East)	Ar. Keshav Chikodi & Ar. Anil Bhingarde
5	Tilak Nagar Shikshan Prasarak Mandal Dombivli's Lokmanya Gurukul, Dombivli (East)	Ar. Vinay Deogaonkar
6	Omkar International School CBSE, Thakurli, Dombivli East	Ar. Dhanashree Bhosale, Ar. Keshav Chikodi, Ar. Uday Satavalekar
7	Omkar English Medium School CBSE, MIDC, Dombivli East	
8	Kshitij School for Special Children, Dombivli (West)	Ar. Dhanashree Bhosale, Ar. Dilip Gupte, Ar. Uday Satavalekar
9	St. Mary's High School & Junior College, Dombivli (West)	Ar. Dhanashree Bhosale, Ar. Padmanabh Gokhale
10	B.R. Madhavi English School, Dombivli (East)	Ar. Omkar Bhagat
11	Vidyaniketan School, Dombivli (East)	Ar. Uday Satavalekar
12	C.R.M. Oak High School, Kalyan (West)	Ar. Aniruddha Dastane
13	St. John High School, Dombivli East	Ar. Shilpa Vivekanand
14	Balak Mandir Sanstha's English Medium Secondary School, Kalyan (West)	Ar. Deepak Patil
15	Sri Vani Vidyashala High School, Kalyan (West)	Ar. Pooja Agarwal
16	GEI's Subhedar Wada High School, Kalyan (West)	Ar. Anand Sahastrabuddhe
17	Smt. Kantaben Chandulal Gandhi English School, Kalyan (West)	Ar. Shailaja Vaidya
18	Sadiccha Apang Punarvasan Kendra, Kalyan (West)	Ar. Shailaja Vaidya
19	New Era Academy High School & Junior College, Badlapur	Ar. Vivek Vilekar

architect in the creation of the built environment and society in general. If we want to create a better future for Bharat, then we need to know its history and of its architecture which reflects the lifestyle and evolution of each era and place, uniquely combining of various technologies and aesthetics. This initiative introduced the students to the field of architecture so it can be considered as a career opportunity in the future.

Today, the ideology of our Prime Minister *Vasudhaiva Kutumbakam* has changed the world's view of Bharat. A similar change is necessary in the attitude of the new generation in our country. This initiative

of knowing our heritage was a step in this direction. The pictures drawn by the students covered many historical buildings: Shri Kedarnath stone temple on a hill; the Taj Mahal like a beautiful dream on R. Yamuna's banks; the many windows of Hawa Mahal framed to look onto the desert; the brave entrance gate of Raigad Fort; the quietness of the Sanchi stupa of Sanchi; Jagannath temple's *shikhara* soaring through the sky.

World Architecture 'Day' turned into World Architecture 'Week' as we adjusted the drawing competition with the schools' schedules. This turned out to be a boon in disguise as we were able to

celebrate this day in 19 schools on various days, which helped in creating a festive atmosphere in our community. We decided to coin this as an annual event called *IIA Kalyan Dombivli Centre's Art and Architecture Festival*. At the end of the week, all drawings were exhibited at Bal Bhavan at Dombivli, designed by the IIA National President Ar. Vilas Avachat. The exhibition was inaugurated by eminent paediatrician and President of General Education Institute, Dr. Ulhas Kolhatkar on 14 October. The Award Ceremony was held on 15 October in the presence of Chief Guest, Ar. Vilas Avachat, President IIA and Guest of Honor, Ar. Sandeep Prabhu, Chairman, IIA, Maharashtra Chapter. The winners and consolation prizes were given to the students and all students were given participation certificates by our Centre. The event was attended by school principals, teachers, students and parents. The quality of drawings was so good that some visitors even asked if they could buy them.

We consider this as an acknowledgement of work done by the entire team of IIA KD Centre. Our effort to introduce school children to our rich and diverse architectural heritage was proved fruitful with children connecting with their roots and instilling pride in the country's glory.

All Photographs Courtesy: Authors



Ar. Keshav Chikodi (A13515) is the Chairman of IIA Kalyan-Dombivli 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 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-Dombivli 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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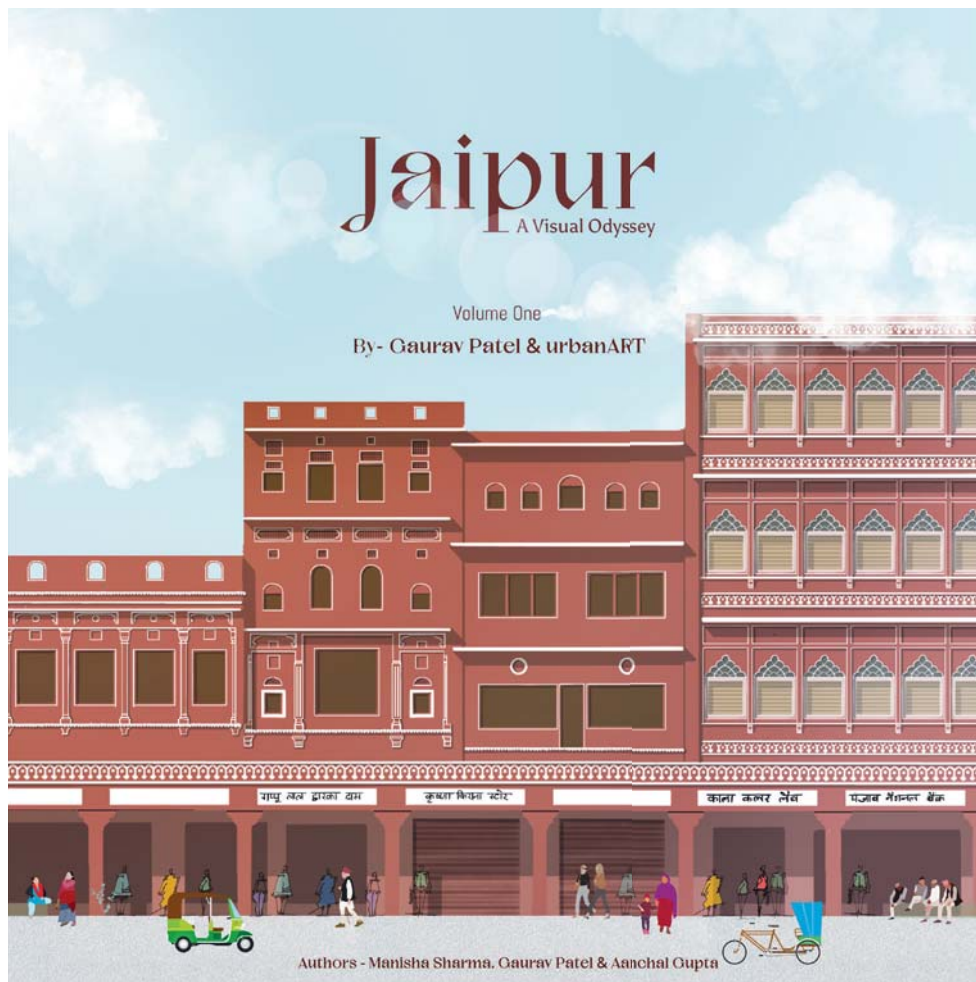
Jaipur

A Visual Odyssey

Volume One

Authors: Ar. Manisha Sharma, Ar. Gaurav Patel and Aanchal Gupta

Reviewer: Ar. Kavita Jain



Fact file

Book title - Jaipur - A Visual Odyssey

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Genre - Nonfiction

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Dimensions - 21 x 21 cm

Type - Paperback

Enchanting and meticulously crafted, the book on Jaipur's walled city is a captivating exploration of its historical architectural treasures. From its composition to the layout, the visuals, and the insightful write-up, every element speaks of the author's deep passion for the subject. The author's attempt to showcase the significant historical buildings through a combination of vivid images, detailed sketches, and concise yet pertinent descriptions is nothing short of commendable.

A standout feature of the book is the author's exceptional skill in creating sketches and illustrations, elevating it above other works in the genre. This artistic touch adds a unique dimension, allowing readers to visually connect with the historical edifices. It's a treasure trove, especially for those new to Jaipur or infrequent visitors to the walled city, offering a comprehensive guide to its rich history.

The book effortlessly weaves together the past and present, making it a must-read for anyone keen on unravelling the layers of Jaipur's heritage. The author's dedication to highlighting the city's architectural gems is evident throughout, making the book a valuable resource for history enthusiasts.

While the book is a commendable piece of work, a few considerations could further enhance its impact. A mention of Sarhad Chowkri in the preface would provide readers with a clear roadmap to the walled city treasures, although it has been illustrated as a 3D map in the contents section. Correcting the spelling of Sawai Jai Singh-II and including a brief description of the king would enrich the narrative, offering readers a deeper understanding of the historical context.

Moreover, a more detailed discussion on the physical arrangement and planning of Jaipur's walled city in the introduction chapter, preceding the section on 'Religion and Governance Entwined,' would provide readers with a holistic perspective. It appears that the authors intentionally left this aspect open for exploration in future volumes, adding an element of anticipation for readers eager to delve deeper into the city's architectural evolution. In conclusion, this book is a delightful journey through Jaipur's history and architecture, skillfully combining visuals and narratives. With a few thoughtful refinements, it has the potential to become an even more enriching resource for those passionate about the cultural heritage of Jaipur's walled city.

Reviewer



Ar. Kavita Jain (11765) is a practicing Conservation Architect for the past 25 years, who has studied at Malviya National Institute of Technology, Jaipur, and did a postgraduate degree in Architectural Conservation from the School of Planning & Architecture, New Delhi. She has won the prestigious NDTV Grohe Award for adaptive reuse of historic buildings in 2015 and, Kakil Dev Award from MSMS II 2021 among many more.
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Ar. Manisha Sharma (A21803) is a graduate in Architecture from NIT Trichy (2005–10) and post graduate in Urban Planning from MNIT Jaipur (2014–16). She specialises in using local materials and advocating water-sensitive planning and thrives on innovative solutions. As the founder of a design and research studio, urbanART, she blends creativity with conscientious urban development, contributing to a more sustainable and culturally enriched built environment.

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Ar. Gaurav Patel, a young architect and graduate in architecture from SPA Bhopal, possesses a profound appreciation for heritage buildings. His unique fusion of artistic talents and architectural vision creates masterpieces that serve as art and historical documentation. On his Instagram art blog, (infinitys_edge_), Gaurav shares exquisite illustrations of Indian heritage structures, celebrating their rich history and cultural significance.

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Aanchal Gupta, an architecture enthusiast and graphic designer, transforms data into captivating presentations. With a passion for architecture and an eye for aesthetics, she crafts engaging visual stories that leave a lasting impression. She believes that design has the power to evoke emotions and create connections, and she is always looking for new ways to push the limits of what's possible. She is studying architecture at SPA Bhopal.

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RAJASTHAN ARCHITECTURE FESTIVAL

RAF 2023

RAF 2023 Edition II was a prodigious expedition. It enabled a diverse and enriching experience to all participants and attendees, ensuring access to the latest products and innovations in the field of architecture. The large number of visitors was testament to the Festival's reach and impact. The theme *Architecture for a Better Future* was carefully curated with the presentation topics and panel discussions. The intention was to tackle contemporary architectural challenges, encourage knowledge sharing and inspire innovative thinking

within the architectural community. We set out to create an event that would leave a lasting impact, which was achieved and more. It was testament to the dedication and passion of the RAF Team, the participants and supporters who made this event successful. Events like RAF play a significant role in shaping the professional landscape for architects and builders. They serve as a platform for learning, networking and staying updated with industry trends : a hub of knowledge sharing where professionals can learn from each other.

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Welcoming the guest during showcase inauguration



Grand ribbon cutting ceremony of showcase building material exhibition



Inaugural lamp lighting of Rajasthan Architecture Festival



Showcase stalls visited by guest delegates



RAF Day one commencing with IIA National Council meeting



IIA Rajasthan Chapter committee standing strong with the council



Auspicious beginning of RAF with Ganesh Vandana



Delegates enjoying cultural evening with performance by Dunes of Rajasthan



RAF Day two beginning with Heritage Walk



A journey of heritage through the Chowkri Modikkana of Jaipur Walled City



Convenor Ar. Tushar Sogani honouring the keynote speaker, Mr. Ashish Vidyarthi, with a token of appreciation



Panel discussion on Trends and Technologies during a technical session



Amazing colloquy on AI: A curse or boon for Architects



Symposium on 'New urban fabric/perspective of a futuristic city'.



Insightful on the topic, 'Moving to Mars or Saving the World?'



Student installation competition: young minds presenting their thoughts in front of a jury on the theme 'Tech and Architecture'.



Jury probing budding architecture students during the art installation competition



Young minds of student installation competition with the jury



Bright young minds of the student installation competition



A Sufi night of melodies by Sufiyat with singer Yashraj



Day three beginning with a thrilling polo match in the Rajasthan Architecture Festival



Delegates enjoying polo, the royal heritage sport of Rajasthan



Mr. Shreyansh Dhabriya sharing insight about his brand, POLYWOOD, the RAF's main sponsor.



Rasem J. Badran, Aga Khan Award winner from Jordan, promulgating his thoughts with delegates



Ar. Tushar Sogani, convenor of the RAF, honouring the keynote speaker, Mrs. and Mr. Rasem J. Badran, Aga Khan winner from Jordan



Panellists expressing their views on the new dimensions of the Architectural profession



Staggering discussion on the topic, 'From Havelis to High Rises: Exploring Architectural Evolution'.



Panel discussion on Metaverse: A fertile ground for Architects.



Renowned artist, Jatin Das inspired the audience with a captivating presentation.



Save Our City presented the Art Vogue, an art exhibition with a spectacular showcase of creative expression at RAF



Concluding evening of grandeur: Hon'ble Lok Sabha Speaker Shri Om Birla Ji's presence elevated the valedictory celebration



Convenor Ar. Tushar Sogani felicitating hon'ble Lok Sabha Speaker Shri Om Birla Ji

Architects from around the globe joined the festival and enjoyed the three-day journey which began with the inaugural ceremony by RSIC Chairman Shri Rajiv Arora-j, followed by a tour of the material exhibition tour. The delegates enjoyed the evening that followed and the Welcome Dinner with lively Rajasthani music and performances by *Dunes of Rajasthan*.

Day Two started with the heritage walk showcasing the living heritage of the Pink City of Jaipur. The participating delegates were led in two groups by expert heritage consultants, Ar. Nischal Jain and Ar. Kavita Jain, who related anecdotes, stories, designs and materials about Jaipur's planning and its sustainable and adaptive nature.

This was followed by the keynote session by national award-winning actor and motivational speaker, Mr. Ashish Vidyarthi at the Clarks Amer. Subsequently there were technical sessions with insights from subject experts on various topics: *Trends and Technology, AI: Curse or Boon to Architects, Moving to Mars or Saving the World* and *New Urban Fabric*. The evening concluded with a dinner party against the backdrop of the royal magnificence of the City Palace, made more enjoyable by the band *Sufiyat*.

Day Three started with a polo match, the royal heritage sport of the state of Rajasthan. This was played between for the special Architects' Polo Cup. The keynote session by Aga Khan award-winner, Ar. Rasem J. Badran was followed technical sessions: *Maths and Architecture: Resulting Parametric Forms, New Dimensions of the Profession, From Havelis to High-rises* and *Metaverse: A Fertile Ground for Architects*.

The entire event culminated on a high note with the august presence of Hon'ble Lok Sabha Speaker, Shri Om Birla-ji who presided over the Valedictory Function. The convener of the event, Ar. Tushar Sogani, Junior Vice President, IIA, proposed amendments to the Architects Act 1972. The Hon'ble Speaker assured his full support for this venture with the assurance that the architects' concerns would be conveyed to the relevant ministry for alterations in the Act. He appreciated the fact that the amendments to the Architects Act speak of the government's initiative of updating the laws of the country in accordance with contemporary needs and aspirations.

During the three-day Festival, architecture quizzes, workshops on parametric architecture and an art exhibition threw light on the journey of contemporary architecture. The Festival served as a platform for budding architecture students who showcased their

talent at the Student Installation Competition. The winner was announced from 25 entries received from across the country. The Festival concluded with a dinner party accompanied by DJ Iqqanve.

RAF 2023, Edition II was not only about showcasing architectural work but also about inspiring others and fostering lifelong learning. It underscored the importance of building a strong and supportive community among architects, students and stakeholders encouraging innovation and growth.

IIA Leadership Conclave & Design Carnival 2023

Bhubaneswar, Odisha

9 - 10 September 2023

The IIA Odisha Chapter organized the *IIA Leadership Conclave & Design Carnival* on 9 - 10 September 2023 at the Crystal Crown Hotel in Bhubaneswar. The event was based on the theme *Samarth - Empowering Architecture*. Throughout the Conclave, participants shared insights, exchanged ideas through seminars, panel discussions, and technical sessions, alongside a building materials and products expo. The National Conclave was integrated with the *Design Carnival 2023*, the state-level annual function for architects, themed *Futurescape*.



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Welcome address by Ar. Swopnadutta Mohanty, Chairperson of IIA Odisha Chapter, followed by Ar. Akshaya Beuria, Honorary Secretary, IIA. Ar. Vilas Avachat, President of IIA, graced the event as the Guest of Honour and shared his valuable insights.

The two-day architectural extravaganza received the participation of more than 600 architecture delegates countrywide, involvement of more than 250 students of architecture from state-wide design schools and plenary sessions, featuring industry, stakeholders and partners.

The IIA Conclave was organised as a step towards equipping the IIA office bearers with essential skills and knowledge-facilitating active interaction among all the National Council Members and also among representatives of various Chapters, Centres and Sub-Centres along with the students of the fraternity.



The Chief Guest, Smt. Anu Garg, IAS, the Development Commissioner cum Additional Chief Secretary, Planning & Convergence Dept., Government of Odisha, shared her idea of development goal and objectives.



The stage was graced by distinguished guests, including Smt. Anu Garg (IAS, Development Commissioner cum Additional Chief Secretary, Planning & Convergence Dept., Government of Odisha) as the chief guest, Ar. Vilas Avachat (President, IIA) as the Guest of Honour along with Ar. Akshaya Beuria (Jt. Honorary Secretary, IIA), Ar. Swopnadutta Mohanty (Chairperson, IIA Odisha Chapter), and Ar. Mousumi Nanda (Vice-Chairperson, IIA Odisha Chapter).



National Awardee, Master Architect, Murali Murugan, provided valuable insights into the future of architecture in second technical session on the first day.



National Awardee, Master Architect, Sanjay Mohe, delivered a captivating presentation on his design philosophy and body of work in the first Technical Session on the first day.



Day one post lunch session: moderated by Architect Kajri Mishra with panelists including Additional Er. J.K. Das, Managing Director, OBCC; Mr. Anil Dhir, Member of INTACH; Mr. Ramahari Jena, Senior Architect; LP Pattnaik, Eminent Tour Planner; Ar. Girdher Agarwal, Eminent Architect; Mr. Sujeet Bakul, Member of Bakul Foundation; Mr. Shiva Mohanty, Editor, New Indian Express; and Ar. Sangram Mohanty, Senior Architect. Their discussions touched upon various aspects of architecture, urban planning, and sustainability.



Day two: Panel Discussion-IIA

Session-1: Understanding IIA Constitution and Byelaw: This informative session featured prominent speakers such as Ar. Jit Gupta (Trustee of IIA), Ar. Prakash Desmukh (Trustee), Ar. Dillip Chaterjee (Trustee), and Ar. Dibya Kush (Former President, IIA). The session was moderated by Ar. Tusar Sogani, Junior Vice President, IIA.

Session-2: Roles & Responsibilities of Office Bearers: Key speakers included Ar. C R Raju (Immediate Past President, IIA), Ar. Madhav Deobhakt, and Mr. Balam Govind Bendke (Chartered Accountant & Auditor of IIA). Ar. B. Sudhir (Honorary Treasurer, IIA) moderated the session.

Session-3: New Initiatives by IIA: This session featured Ar. Vilas Avachat (President, IIA), Ar. Jitendra Mehta (Vice President, IIA), and Ar. Akshaya K. Beuria (Joint Honorary Secretary, IIA). Ranees Vedumuthu, Joint Honorary Secretary, IIA, served as the moderator.



Book release authored by Ar. Apoorva Bose Dutta named *Architectural Inheritance and Evolution in India*.



Origami workshop conducted for the students by Er. Arun Desai, Paper Engineer, Studio Chitte.



Awards were presented to the winners of various student competitions conducted in the two-day event with participation of seven architecture colleges of Odisha, including the *Design Carnival Awards 2023*, *Best Project of the Year* awards in various categories, the *Young Architect of the Year Award 2023*, *Architect of the Year Award 2023*, and the esteemed *Otto Konigsberger Lifetime Achievement Award* was presented.

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NEWSLETTER OCTOBER

IIA ASSAM CHAPTER

ACTIVITY REPORT

On October 2, 2023, the Indian Institute of Architects—Assam Chapter organised a bike rally from Guwahati to Umium in Meghalaya. The objective of the bike rally was to raise awareness among the general public about environmental degradation and how it can be averted through responsive architecture. Altogether, 65 architects from the Assam Chapter participated in the event, with 30 young architects on motorcycles and the rest on four-wheelers for the journey, which covered a distance of approximately 70 km. A few architects from the neighbouring state of Meghalaya also joined in as a goodwill gesture and for fellowship in the event, which culminated at the Tyndai Resort, Umium, Meghalaya.



Bike rally participants

IIA BIHAR CHAPTER

World Architecture Day celebration by Bihar Chapter IIA

The Indian Institute of Architects (IIA) proudly conducted the installation ceremony of its Bihar Chapter on August 5, 2023, and witnessed the presence of eminent guests, architects, and dignitaries from the architectural and construction domains.

The chief guest for the evening was Mr. Arunish Chawla, ACS, Urban Development Department, Bihar. In his address, Mr. Chawla commended the initiative taken by the Indian Institute of Architects

in establishing a dedicated chapter in Bihar. He emphasised the significance of architecture in shaping the state's landscape and stressed the importance of sustainable urban development for the future.

Joining Mr. Chawla were other distinguished guests, including Ar. Gajanand Ram, Vice President of the Council of Architecture, Ar. Anil Kumar, Chief Architect at the Building Construction Department, Bihar, and Ar. Abhishek Sharma, Chairman, IIA, Bihar Chapter. The guests lauded the efforts of IIA in promoting excellence in architectural practices and expressed their support for the newly formed Bihar Chapter.

The installation ceremony was a momentous occasion, witnessing the formal induction of the newly elected office-bearers of the Bihar Chapter. Ar. Abhishek Sharma, Chairman of the IIA Bihar Chapter, emphasised the opportunities it offers for architects in Bihar to collaborate, learn, and innovate towards a sustainable and vibrant built environment.

The newly elected committee members are Chairman Abhishek Sharma, Vice Chairman Ashesh Kumar, Treasurer Amit Kumar, Joint Secretary Pradeep Kumar, and Shyam Prasad. The new executive members are Ravish Kumar, Sunny Kumar, Uma Shankar Kumar, Mohammad Danish, Kumar Bipul Singh, and Kanishk Kumar. The Bihar Chapter is poised to play a vital role in advancing the profession of architecture and driving sustainable development initiatives in the state.



Newly Elected Members of Executive Committee, Bihar Chapter, IIA

To facilitate dialogues, seminars, and workshops to promote best practices, research, and innovation in architecture, the Indian Institute of Architects, Bihar Chapter, and the National Institute of Technology Patna came together to celebrate World Architecture Day on October 4, 2023. The event aimed to promote architecture and sustainable development in Bihar through dialogues, seminars, and workshops. It featured prominent figures in the field, including Ashesh Kumar, Dhananjay Kumar, Amit Ranjan, Abhishek Sharma, and Md. Danish, who were honoured for their contributions. The event began with a lamp-lighting ceremony, symbolising the enlightenment architecture brings. Dignitaries discussed the evolving role of architecture in society, culture, and history. Architect Kamini Sinha delivered a captivating presentation on the “Impact of Different Cultures and Historical Events on the Architecture of Patna.” Her presentation explored the rich tapestry of architectural styles and influences that have shaped the city’s landscape over the centuries. It highlighted the role of culture and history in moulding the architectural identity of Patna. Sumit Kumar Singh showcased innovative and sustainable designs. The event also included a photography and sketching competition and was a resounding success, celebrating the past and present of architecture and inspiring the next generation of architects.

IIA GOA CHAPTER

Installation of new EC of IIA Goa Chapter for the Term 2023-25

The Installation Ceremony along with the last GBM of Term 2020 – 2022 and the First GBM of Term 2023- 2025 was held at Grande Salle, Taj Heritage- Cidade de Goa at Dona Paula in Goa on 18 August. The Installation ceremony was well attended by over 100 practicing architects from Goa along with students and IIA members of the Goa College of Architecture.

Among several concerns of the profession, the general body also raised the issue of the name-calling of a fellow IIA member on the floor of the House of the Goa Assembly by one of the ministers. The incoming and outgoing chairperson of IIA briefed the general body about the steps taken to draw the attention of the concerned Minister of the fraternity on this issue and also informed the body about the withdrawal of the statement on the floor of the House by the concerned Minister. The incoming Chairperson IIA Goa also assured all its members that IIA will back all its members as and when required to ensure that the dignity of the profession and the professional is always upheld.



The incoming EC of the Goa Chapter of IIA for the Term 2023-2025, chaired by Ar. Milind Ramani.

The GBM was followed by a presentation titled *Bending-No Bending: A Dialectical Process* by the guest speaker, international award-winning architect, Ar. Senthil Kumar Doss. Describing a process inspired by nature and Bruce Lee’s philosophy in martial arts the talk probed the idea of minimising redundancy in the design and manifestation process. The event concluded with fellowship dinner and cocktails.

World Architecture Day 2023: Heritage Walk

As a part of the World Architecture Day celebrations, a heritage walk was organised at the World Heritage Site of Old Goa on Saturday 7 October 2023, with conservation architect, Ar. Ketak Nachinolkar taking an interested group of architects and designers through a part of the protected area. The walk started near the rear gate of the Se Cathedral, and proceeded towards the Viceroy’s Arch, St. Cajetan’s Church, remnants of the gate to Adil Shah Palace, Chapel of St. Catherine’s ending at Se Cathedral Gardens.

IIA GUJARAT CHAPTER

Open House organised by IIA Surat Centre

As a part of World Architecture Day, on 2 October, an Open House, organised by IIA-Surat from Gujarat Chapter, brought together the young as well the experienced professionals in the field of architecture and design on a common platform to discuss pertinent issues of the design profession. IIA Surat Centre organised this event to especially bring the young professionals on board and provide them with a platform to raise their concerns and conduct a meaningful discourse on issues important to them.

The event began with orienting the audience with *Why be a Member of IIA?* by Ar. Jignesh Modi, Immediate Past President of IIA Surat Centre and EC Member of IIA Gujarat Chapter.



(From left) Ar. Vishal Shah- Moderator, Founder-Partner *Aangan Collaborative LLP*; Ar. Karishma Desai- Partner, *Atelier D-Sync*; Ar. Azmi Wadia- Partner, *Azmi and Sarosh Wadia*; Ar. Vijay Chauhan- Principal Partner, *Crest Architects* and Chairman, IIA Surat Centre.

The panel for this Open House comprised a mix of well-known, experienced and young designers working in diverse spheres of the design profession. They shared their experiences and responded to candid questions from young minds. They shared their own career trajectories, offering advice on how to climb the ladder in the field of architecture. They emphasized the importance of continuous learning, mentorship and networking. The key takeaways from the Open House discussion were:

- Client-centric approach: Listening to the client's needs.
- Effective team building: Balancing reward and responsibility.
- Opportunities for growth
- Valuing your expertise: Knowing your worth.
- Sustainable practice

IIA HIMACHAL PRADESH CHAPTER

IIA HP Chapter marked its presence at the Rajasthan Architecture Festival (RAF) 2023

Ar Nand Lal Chandel, Chairman IIA HP Chapter, along with a team consisting of Ar. LM Mastana, Vice Chairman, Ar. Shushil Sharma, Joint Hon. Secretary, and Ar. Sarojani Sharma Joint Hon. Secretary with an additional charge of Treasurer, Ar. Raj Sharma, Ar. Abhinav Koundal, and Ar. Vijay Thakur, all EC members, former Vice Chairman, Ar. Mauj Shardia, Ar. Sandeep Sharma NIT Hamirpur, Ar. Ashwani Kalia HPPWD Dharmashala, Principal Architect, Ar. Ranjeet Kanoujia, Ar. Sahil Attri, Ar. Ishan Sood, and Ar. (Dr.) Satish Kumar Katwal, Correspondent HP Chapter, attended the Rajasthan Architecture Festival (RAF) 2023 held at Jaipur from October 6–8, 2023.

Later, on his return to Himachal Pradesh, Ar Nand Lal Chandel expressed his happiness and shared

that the Rajasthan Architecture Festival (RAF)-2023 held in Jaipur on October 6–8, 2023, was marked by insightful sessions, esteemed speakers, book releases by Jit Kumar Gupta, and cultural extravaganza. He further shared that the valedictory function of the Rajasthan Architecture Festival (RAF) 2023 marked the conclusion of a highly successful three-day festival. He also narrated that the Rajasthan Architecture Festival (RAF) 2023 was a wonderful platform for various architects, urban planners, designers, and visionaries to explore ground-breaking ideas and discuss the future of architecture. During the said festival, Ar. Nandlal Chandel also chaired the EC meeting of the HP Chapter. He expressed his delight as the majority of EC members attending the Rajasthan Architecture Festival (RAF) 2023 expressed that the festival has truly motivated all stakeholders and paved the way forward for a brighter future for architecture in the times to come.



Participants of IIA HP during RAF 2023

IIA HP Chapter celebrated World Architecture Day 2023 across Himachal Pradesh on October 2, 2023.

To spread the message of various concerns related to architecture in Himachal Pradesh, the IIA HP Chapter celebrated World Architecture Day 2023 across Himachal Pradesh on October 2, 2023, by involving three verticals: educational institutions, government professionals, and private architectural professionals.

World Architecture Day 2023 was celebrated with full vigour and enthusiasm in three zones: Shimla, Dharamshala (Kangra), Mandi, and at NIT Hamirpur. World Architecture Day is celebrated by the Himachal Pradesh Chapter of IIA in collaboration with the School of Architecture, Nagrota Bagwan. With more than 400 professionals, faculty from four colleges participating (namely: Govt Polytechnic

Sundernagar, Govt Polytechnic Ambota, and Govt Polytechnic for Women Rehan, Kangra) imparting diplomas in architecture joined and witnessed the occasion in large numbers. Students, on the theme of World Architecture Day, made five excellent and thought-provoking presentations. Details of the competitions held were also displayed. Ar Nand Lal Chandel, the Chairman, made an inspiring address for the students to work hard and remain focused while detailing various chapter activities. He also read the declaration made by the IIA on Architecture Day. Ar Jit Kumar Gupta also explained the role and relevance of architecture and architects in promoting sustainability and making this world a better place to live. The welcome address was delivered by the host, Dr. Satish Katwal, Head School of Architecture, and the programme was conducted professionally by Madam Urvashi.

IIA KARNATAKA CHAPTER

Namma Smaraka Digital Platform - Adopt-a-Monument Scheme

The Department of Tourism, Karnataka, launched the *Adopt-a-Monument Scheme* on 25 September 2023, at Vidhana Soudha. It aimed at developing, conserving and promoting the rich heritage of Karnataka's monuments and heritage sites through NGO involvement in a Public-Private Partnership. IIA Karnataka Chapter offered its design expertise to ensure well-planned infrastructure enhancements. The *Namma Smaraka* digital platform for this initiative was developed by the Culkey Foundation.

ArchiTober 2023: Ink your Architectural Imagination

IIA Karnataka Chapter initiated *ArchiTober 2023*, inviting participants to create black-and-white ink artworks based on architecture-related prompts. This initiative aimed to engage the public in architecture, enhance drawing skills, and encourage the creation of art daily, benefiting both architects and students. It also provides artists and illustrators a platform to build their portfolios.

Brand Bengaluru Event

The Government of Karnataka, led by Deputy Chief Minister, Shri D.K. Shivakumar, sought community input for the *Brand Bengaluru* initiative on 9 October 2023. Ar. Mohan B.R., Chairman of IIA Karnataka Chapter contributed to the Vibrant Bengaluru Committee for its cultural enrichment. The discussions covered various aspects, including a cultural calendar, heritage preservation and public space rejuvenation, aiming to enhance Bengaluru's cultural vibrancy within the initiative.



IIA Karnataka Team interacting with Hon. Chief Minister Siddaramaiah and Shri H.K Patil, Minister for Department of Tourism at the *Namma Smaraka Digital Platform* launch event at Vidhana Soudha on 25 September 2023.

Samhita Lecture Series

The Education and Academics Committee of IIA Karnataka Chapter organized *Samhita*, a lecture series for architecture students. The first lecture, held on October 20, 2023, focused on *Site Planning and Analysis* conducted by Ar. Prasad, Principal Architect of *Dhruva Associates*. The event hosted by R V College of Architecture, Bengaluru was well attended in person and online.

World Architecture Day Celebrations

World Architecture Day, observed on 2 October 2, 2023 was marked by the IIA Karnataka Chapter members at the Bhoganandeeshwara Temple at Nandi, Karnataka attended by architecture students and architects. The celebration began with a heritage walk led by Prof. Ar. Swetha Purohit, followed by sketching and photography activities. The event was supported by ASI.

IIA Mysuru Centre

World Architecture Day Celebrations

WAD was commemorated with a heritage walk guided by conservation architect Ravi Gundu Rao. It offered architecture students, architects, and art enthusiasts the opportunity to explore and sketch the cultural richness of Mysuru.

IIA Belgaum Centre

World Architecture Day Celebrations

WAD was celebrated at the Kamal Basadi monument, bringing together architects, students and art enthusiasts, fostering a deep appreciation for the city's architectural heritage through sketching and photography.

IIA Mangalore-Manipal Centre World Architecture Day Celebrations

WAD was celebrated in collaboration with the students and faculty of Manipal School of Architecture & Planning (MSAP). The art and architecture at the Hasta Shilpa Heritage Village Museum in Manipal was explored and deepened their understanding of architectural heritage.

IIA Vijayapura Centre World Architecture Day Celebrations

WAD was marked with a heritage walk and a sketching competition at the Ibrahim Roza monument to deepen the participants' experience of the cultural heritage of Vijayapura, emphasizing the importance of architecture in connecting the past, present and future.

IIA Hubballi Dharwad Centre World Architecture Day Celebrations

WAD was celebrated at the Banashankari Temple in Amargol Village, Hubli through sketching and photography activities, highlighting the importance of heritage preservation and cleanliness, emphasizing the need to connect with the city's cultural heritage.

IIA Kalaburagi Centre World Architecture Day Celebrations

IIA Kalaburagi Centre organized an 'Archi Talks' event on October 17, 2023, featuring a Heritage Walk at the Jamia Masjid Kalaburagi. This event allowed architects and students to engage in discussions, sketching, and photography activities to explore Kalaburagi's cultural richness.

IIA Belgaum Centre Installation Ceremony

On 19 October 2023, IIA Belgaum Centre inaugurated its new leadership team led by Chairman Ar. Kuldeep Hangirgekar at Fairfield by Marriott, Gogte Plaza, Belagavi. Ar. Mohan B.R., Chairman of IIA Karnataka Chapter, officiated at the Installation Ceremony, with guests including Hon. Treasurer Ar. Shyam Sunder and Joint Hon. Secretary Ar. Anand Pandurangi, among other esteemed Executive Committee Members.

IIA KERALA CHAPTER

IIA Cochin Centre

One of the most pressing challenges confronting our cities is unquestionably waste management. This issue was confronted by IIA Kerala's Cochin Centre. Under the guidance of Ar. Lalichan Zacharias, Ar. Latha Raman and Ar. Jaigopal G. Rao, a comprehensive proposal for waste management was developed. This detailed document was meticulously crafted to assess the current situation and present a viable

solution to this critical issue. The data collection and scientific analysis were conducted with the invaluable support of architecture students from SCMS, ASADI, KMEA, and internship students from IIT Kharagpur. The proposal is currently under consideration for discussion by the relevant authorities.



BRIDGE initiative by IIA Calicut Centre

IIA Calicut Centre

BRIDGE is an innovative initiative established by IIA Kerala's Calicut Centre, aimed at nurturing emerging architectural practices. The inaugural *BRIDGE* session, which took place on 8 September 2023, featured the exceptionally talented young architects of *Workers of Art* led by Ar. Rahul Mathew and Ar. Priya Rose. During this event, these promising architects shared their insights and experiences from their professional journey with the eager and enthusiastic young architects of IIA Calicut.

IIA MAHARASHTRA CHAPTER

IIA Pune Centre organised a combined event for the celebration of Teachers Day along with World Architecture Day 2023 on October 21, 2023, at 10 a.m. at Annabhau Sathe Auditorium, Padmavati, Pune. The Honourable Rajsahab Thackerayji (Chief of MNS) graced the occasion as the Chief Guest, Ar. Vilas Avchat (President IIA National Council), was invited as Guest of Honour in the presence of Ar. Sandeep Bawdekar (Jt. Hon. Secretary, IIA National Council).

When the clock struck the appointed hour, a sense of anticipation filled the room as professionals from diverse backgrounds gathered for an insightful and engaging event. A total head count of approximately 600 professionals, academicians, and students attended the event, which was meticulously planned and executed by the organising committee.

On the occasion of Teachers Day 2023, IIA Pune Centre identified 22 architectural colleges in the Pune Region, where one teacher from each institute and the principal were felicitated with the award titled

“IIA S.J. Contracts Award for Excellence in Teaching”. The criteria for the selection of the teacher from each institute was formulated by IIA Pune Centre, whereby three nominations were taken from the respective principal of the college, and the students of each institute voted for these teachers through an online voting system. The teacher with the most votes from the students was thus recognised and honoured by the “IIA S.J. Contracts Award for Excellence in Teaching,” which consisted of a certificate and a memento. The cheer and applause by the students of each college all through the ceremony was a heartwarming example where the recognition was not just a personal achievement but a testament to the power of fostering strong teacher-student relationships and creating an environment where students feel valued, respected, and heard.



On the occasion of World Architecture Day, IIA Pune Centre recognised three renowned architects in Pune City for their exemplary work in architecture spanning their impressive career of more than 50 years. The professional fraternity deeply respects the years of dedication and expertise that Ar. Vikas Bhandari, Ar. Vishwas Kulkarni, and Ar. Shoba Bopatkar have brought to the architectural community. The award was titled “IIA S.K. Belvalkar Award for Excellence in Profession,” which consisted of a certificate and a memento.

After the awards ceremony, renowned author Mr. Deepak Karanjakar interviewed Hon. Rajsahab Thackerayji in the form of a discussion highlighting the importance of architecture in shaping cities and communities. The focus of the discussion further featured the role of architecture in economic development, cultural identity, and environmental sustainability. The Honourable Rajsahab Thackerayji emphasised the importance of collaborative efforts between architects, policymakers, and the community for the betterment of cities in very impressive, humorous, and relevant ways to the current times.

The Honourable Rajsahab Thackerayji acknowledged the importance of the role of architects in planning and committed to the appointment of qualified architects in city and town planning departments

and other related government organisations for more meaningful development planning when he comes into power.

The wide media coverage of the event brought its significance to the forefront of public awareness, with national newspapers covering it throughout India, live social media broadcasts, and 20 news channels on television networks all contributing to the extensive reporting. The impact of the event and the relevance of our platform can be summed up with approximately 5 lakh viewers witnessing the event on the news media and YouTube Live.

Amidst bursts of laughter and an auditorium resonating with mirth, renowned Marathi stand-up comedian Mr. Sarang Sathey of ‘BhaDiPa’ fame (Bhartiya Digital Party) took the stage, lighting up the conclusion of the event with his unique brand of humour.

IIA Pune Centre concluded the event with the focus of creating a memorable experience for attendees, thriving to continually raise the bar and deliver relevant events for the fraternity by providing engaging content, interactive sessions, networking opportunities, and a grand environment!!

IIA Pune Centre Team Ar. Vikas Achalkar, Chairman; Ar Shitesh Agarwal, Vice Chairman; Ar Mangesh Gotal, Hon Treasurer; Ar Shailesh Dandane, Hon Secretary; EC Members Ar Hrishikesh Kulkarni, Ar Jitendra Thakkar, Ar Vivek Garode, Ar Amit Khivansara, Ar Milind Panchal, Ar Mahesh Bangad, Ar Surabhi Gadkari, Ar Amol Hatkar, Ar Rina Salvi, Ar Vishal Jadhav, Ar Parag Deshpande, and Ar Kapil Jain worked hard to make this event a grand success.

IIA TAMIL NADU CHAPTER

Upgradation of Salem Sub-Centre to the Centre
28 and 29 October 2023, Cliff View Resorts, Yercaud

Since 2014, when it was formed with 33 members, Salem Sub-Centre has grown steadily - thanks to the dedicated efforts of its enthusiastic members. Now, in 2023, with more than 75 members, it has become a Salem Centre, the sixth centre of the TN Chapter. The Upgradation ceremony was clubbed with TN’s own Triune celebration (Commemorating Architects Day, Teachers Day, and IIA Day together) on October 28 and 29, hosted in the lush green hill station of Yercaud.

Ar.Vilas Avachat, President IIA; Ar.C.R. Raju, Immediate Past President IIA; Ar.Jitendra Mehta, Vice President IIA; Ar.Tushar Sogani, Jr. Vice President IIA; Ar.Kurian George, Council Member IIA; and Ar.P. Chandranesan, Chairman IIATN, honoured the grand event with their presence.



Seated: (L-R) Ar. Saravana Kumar.M.N, Chairman, IIA Salem, Ar.T. Loganathan, Member, CoA, Ar.P. Chandranesan, Chairman, IIA, TN Ar.C.R.Raju, Immediate Past President IIA, Ar.Vilas Avachat, President IIA, Ar.Jitendra Mehta, Vice President IIA, Ar.Tushar Sogani, Jr Vice President IIA, Ar.Vijaya Anand.R, Jt Hon Sec, IIATN
 Standing: IIA Salem (L-R) Ar.M.Gokula Kannan, Hon Treasurer, Ar.Senthil Kumar, Member of Bye-Laws committee CoA, made the occasion memorable. Ar.Rangasamy, Hon. Sec., IIA Salem, Ar. M.Saravana Kumar, EC Member, Ar.C.Satpratika, EC Member, Ar.M.Praveena, EC Member, Ar.Manikandan, Vice Chairman, Ar.D.KiranKumar, EC Member.

More than 100 members from all the centres in Tamil Nadu participated. The fellowship dinner, cultural show, and morning yoga session were part of the weekend event. The young architects of the new centre had a very fruitful discussion with the national guests about the future of IIA and the profession.

The energetic team of Salem Centre, with the able guidance of Ar Saravana Kumar, M.N., Chairman, IIA Salem, and Ar Manikandan, Vice Chairman, IIA Salem, Ar.Rangasamy, Hon. Sec. IIA Salem, and Ar. Senthil Kumar, Member of the Bye-Laws Committee CoA, made the occasion memorable.

IIA WEST BENGAL CHAPTER

World Architecture Day (WAD) was celebrated by the IIA West Bengal Chapter in collaboration with West Bengal Heritage Commission (WBHC). A panel discussion was held on *Compulsory Engagement of Conservation Architects in Heritage Buildings* with eminent panelists including Ar. Partha Ranjan Das, Dr. Sanghamitra Basu, Ar. Ashish Acharjee, Ar. Manish Chakraborty, Ar. Kamalika Bose and moderated by Prof. Souvanic Roy. Shri. Alapan Bandopadhyay, Chairman, WBHC, ex-Indian Administrative Service officer and former Chief Secretary of the State for the Government of West Bengal, was present throughout the event and shared valuable opinions and thoughts on the role and involvement of IIA in heritage building conservation aspects. The comprehensive discussion highlighted the pressing need to protect West Bengal's heritage buildings through the issuance of an advisory for engaging

conservation architects. Participants acknowledged that while advisory measures are not legally binding, they can be remarkably effective in practice. The discussion also emphasized the importance of clear guidelines, training programs, and a committee to facilitate the implementation of these initiatives. By addressing these key points, West Bengal can take significant strides in preserving its cultural and historical heritage for future generations. An informative and intriguing book titled as "Built Heritages of Kolkata" by Dr. Himadri Guha was also launched in the event.



Panel Discussion on the occasion of World Architecture Day.

A workshop on *Common Application Form (CAF) for Completion Certificate (CC) and Occupancy Certificate (OC) in Ease of Doing Business (EODB) in Construction Permits* was held by IIA West Bengal Chapter and Kolkata Municipal Corporation on 12 August 2023. Various officials of Kolkata Municipal Corporation including the Chief Engineer, IT Managers and engineers attended the session to give valuable insights to the procedures and functioning of the online system which is of importance in architectural practice, profession and management. Architects deliberated on their different points of difficulty, common errors, dos and don'ts. The direct interactive discussions with the key officials of the municipality were beneficial to the attendees.

The First General Body Meeting for the term 2023 - 2025 and the Last General Body Meeting for the term 2020 - 2022 were held on 14 July 2023. The consolidated audited statement of accounts for the financial year upto 2022-23 was adopted and the result of election of the Executive Committee for the term 2023 - 2025 of West Bengal Chapter was reported as per agenda. The new Committee Members were welcome along with note of thanks to the outgoing committee. Thereafter the first and second Executive Committee Meetings were held on 28 July 2023 and 30 September 2023 respectively where various important agenda were discussed.

3rd Com Meeting Held at Jaipur, Rajasthan on 6th October, 2023 for the Term 2023-2025.

Sr.No.	Assoicate to Fellow	Membership No	Place
1	Ar. Suriyanarayanan. B	F19189	Salem
2	Ar. Vibha Shrivastava	F12330	Bhopal
3	Ar. Amit Sukhthankar	F11723	Goa
Sr. No.	Direct Fellow	Membership No	Place
1	Ar. Shubhada Kedar Chapekar	F27795	Pune
2	Ar. Suhasini Laxman Iyer	F27796	Tamil Nadu
3	Ar. Lalbiak Mawia Ngente	F27797	Assam
4	Ar. Kajri Misra	F27798	Odisha
Sr. No.	Associate	Membership No	Place
1	Ar. Vimal Beeju Hansraj	A27799	Pune
2	Ar. Rupesh Kishore Jamkhindikar	A27800	Pune
3	Ar. Varun Gayatri Gokhale	A27801	Nagpur
4	Ar. Deepa Raju	A27802	Cochin
5	Ar. Heena Kataria	A27803	Faridabad
6	Ar. Harshita	A27804	Faridabad
7	Ar. Deepak	A27805	Faridabad
8	Ar. Abhishek Sharma	A27806	Thiruvanthapuram
9	Ar. Neelesh Kant Saxena	A27807	Uttar Pradesh
10	Ar. Alok Surendra Kirad	A27808	Pune
11	Ar. Dipti Jeewanprasad Patwardhan	A27809	Pune
12	Ar. Shilpa Pawan Dhawale	A27810	Pune
13	Ar. Muntazim Mahamood Inamdar	A27811	Pune
14	Ar. Atul Ashok Katariya	A27812	Pune
15	Ar. Tushar Pradeep Mohite	A27813	Pune
16	Ar. Ruqayyah Siamwala	A27814	Pune
17	Ar. Devendra Kumar Medhekar	A27815	Bhopal
18	Ar. Siddharth Ajay Dak	A27816	Rajasthan
19	Ar. Bipasa Mishra	A27817	Odisha
20	Ar. Sailesh Suprit	A27818	Odisha
21	Ar. Sandeep Swarup	A27819	Odisha
22	Ar. Ananta Basudev Ojha	A27820	Odisha
23	Ar. Gopi Chandra Singh	A27821	Odisha
24	Ar. Sasmita Sahoo	A27822	Odisha
25	Ar. Swagatika Mishra	A27823	Odisha
26	Ar. Bibhuprakash Saha	A27824	Odisha
27	Ar. Partha Sarathi Mishra	A27825	Odisha
28	Ar. Rishab Ray	A27826	Odisha
29	Ar. Debasis Das	A27827	Odisha
30	Ar. Aradhana Sahu	A27828	Odisha
31	Ar. Sovan Mohapatra	A27829	Odisha
32	Ar. Eby T George	A27830	Kerala
33	Ar. Moksha Bhatia	A27831	Chandigarh
34	Ar. Priti Chandrabhan Tijare	A27832	Bhopal

35	Ar. Sharad Saxena	A27833	Bhopal
36	Ar. Vipin Chauhan	A27834	Bhopal
37	Ar. Rishab Saini	A27835	Gurgaon
38	Ar. Chaitali Bansal	A27836	Gurgaon
39	Ar. Arun Kumar Kushwaha	A27837	Durg-Bhilai
40	Ar. Yash Ramesh Kumar Didwania	A27838	Raipur
41	Ar. Arpit Mishra	A27839	Bilaspur
42	Ar. Utkarsh Kumar Jalan	A27840	Bilaspur
43	Ar. Shrawan	A27841	Bilaspur
44	Ar. Piyush Bhakre	A27842	Raipur
45	Ar. Palak Puri	A27843	Jammu & Kashmir
46	Ar. Nikhil Agarwal	A27844	Odisha
47	Ar. Sri Dibyasingh Jena	A27845	Odisha
48	Ar. Khushboo Sahu	A27846	Raipur
49	Ar. Mitalee Madhukar Mahajan	A27847	Pune
50	Ar. Riyaj Mubarak Jhelum Attar	A27848	Sangli
51	Ar. Namrata M Tashilkar	A27849	Pune
52	Ar. Shahista Bano	A27850	Pune
53	Ar. Aashi Jain	A27851	Indore
54	Ar. Sankpal Kasturi Ashok	A27852	Pune
55	Ar. Shruti Utpal Barve	A27853	Mumbai
56	Ar. Suraj Sampatrao Abhang	A27854	Pune
57	Ar. Karshan Prakash Rathod	A27855	Telangana
58	Ar. Shweta Jambuvantrao Raut	A27856	Pune
59	Ar. Trailukya Hazarika	A27857	Assam
60	Ar. Sonam Suryabhan Kute	A27858	Pune
61	Ar. Aravind Raman	A27859	Kerala
62	Ar. Jay Prakash Aeram	A27860	Pune
63	Ar. Sabarish B	A27861	Trichy
64	Ar. Mohit Pramod Chaugule	A27862	Sangli
65	Ar. Manali Chaitanya Deshmukh	A27863	Pune
66	Ar. Praseetha V K	A27864	Palakkad
67	Ar. Rekha Kaundal	A27865	Himachal Pradesh
68	Ar. Renu	A27866	Delhi
69	Ar. Kaavya R	A27867	Karnataka
70	Ar. Nishanth Krishna	A27868	Calicut
71	Ar. Omkar Dattatraya Samudra	A27869	Pune
72	Ar. Durgesh Devidasrao Kulkarni	A27870	Pune
73	Ar. Narender Sharma	A27871	New Delhi
74	Ar. Ruby Nawaz	A27872	Calicut
75	Ar. Harmandeep Singh	A27873	Ludhiana
76	Ar. Tejaswini Satish Athavale	A27874	Navi Mumbai
77	Ar. Shivangi Sharma	A27875	Uttarkhand
78	Ar. Lata Kanwal	A27876	Uttarkhand
79	Ar. Siram Neeharika	A27877	Kakinada
80	Ar. Savi Gajanan Kalpana Banore	A27878	Amarvati
81	Ar. Vinod M	A27879	Karnataka
82	Ar. Jinu Louishidha Kitchley	A27880	Madurai

83	Ar. Anina Elizabeth Jacob	A27881	Thiruvananthapuram
84	Ar. Parminder Singh	A27882	Punjab
85	Ar. Amit Kumar	A27883	Hisar
86	Ar. Sunil Madhukar Bhalerao	A27884	Navi Mumbai
87	Ar. Mushira Ali Shahib Hameed	A27885	Malappuram
88	Ar. Sadam Hussain K	A27886	Trichy
89	Ar. Shilpa Ashok Jain	A27887	Navi Mumbai
90	Ar. Anju Mala	A27888	Uttar Pradesh
91	Ar. Reha Golia	A27889	Rajasthan
92	Ar. Vishwathika B	A27890	Madurai
93	Ar. Ravi Kiran Matcha	A27891	Visakhapatnam
94	Ar. Sundeep Pritam Kumar Bharti	A27892	Himachal Pradesh
95	Ar. Manish	A27893	Uttar Pradesh
96	Ar. Lakshmi Bhatt	A27894	Noida
97	Ar. Shubhra Mohanty	A27895	Odisha
98	Ar. Rameez Raza Gesawat	A27896	Rajasthan
99	Ar. Roshan Prajapat	A27897	Rajasthan
100	Ar. Prem P	A27898	Coimbatore
101	Ar. Karan Gupta	A27899	Himachal Pradesh
102	Ar. Swapnajit Behura	A27900	Odisha
103	Ar. Kaushal Tewari	A27901	Uttarkhand
104	Ar. Austin Jude George	A27902	New Delhi
105	Ar. Rajesh R	A27903	Tamil Nadu
106	Ar. Oishik Chakraborty	A27904	West Bengal
107	Ar. J Anupriya	A27905	Kerala
108	Ar. Arun Raj K I	A27906	Kerala
109	Ar. Nidhi Tiwari	A27907	Nashik
110	Ar. Santhana Krishnan K	A27908	Coimbatore
111	Ar. Shashank Shahabadi	A27909	West Bengal
112	Ar. Mohammad Ashif	A27910	Uttar Pradesh
113	Ar. Mahua Biswas	A27911	Pune
114	Ar. Anitha P	A27912	Coimbatore
115	Ar. Mohd Esa Mohd Munira Farooque Shaikh	A27913	Mumbai
116	Ar. Parikshit Vijay Waghdhare	A27914	Mumbai
117	Ar. Komal Kemadiya	A27915	Indore
118	Ar. Akshat Gupta	A27916	Indore
119	Ar. Aditi Prajapati	A27917	Raipur
120	Ar. Anant Bajaj	A27918	New Delhi
121	Ar. Desireddy Venkat Manivith	A27919	Andhra Pradesh
122	Ar. Sumiran Kaushik	A27920	Delhi
123	Ar. Dhanireddy Shrivanya	A27921	Andhra Pradesh
124	Ar. Yashwanth Narsingoju	A27922	Telangana
125	Ar. Harshit Chaudhary	A27923	Uttarkhand
126	Ar. Cibi V	A27924	Coimbatore
127	Ar. Chandan Aekanath	A27925	Calicut
128	Ar. Krishnendu Ghosh	A27926	West Bengal
129	Ar. Maniyarasan R	A27927	Trichy
130	Ar. Nisha Bharti	A27928	Jharkhand

131	Ar. Logeshwaran R S	A27929	Tamil Nadu
132	Ar. Jigar Ajaybhai Rathod	A27930	Gujarat
133	Ar. Arun Saini	A27931	Punjab
134	Ar. Kingsley Sourav Kisku Rapaz	A27932	Jharkhand
135	Ar. Prashanth Guru Prasad	A27933	Mangalore-Manipal
136	Ar. Vikram Kapoor	A27934	Haryana
137	Ar. Dhruv Sharma	A27935	Uttar Pradesh
138	Ar. Rajanandhini S	A27936	Thanjavur
139	Ar. Annie Silviya G	A27937	Tiruchirappallii
140	Ar. Darshan Kiran Phalak	A27938	Maharashtra
141	Ar. Pranali Shamsundar Agarwal	A27939	Pune
142	Ar. Siddhartha Panigrahi	A27940	Odisha
143	Ar. Raheel Kasim Maner	A27941	Maharashtra
144	Ar. Sampreeth R	A27942	Karnataka
145	Ar. Arunkumar M	A27943	Coimbatore

ERRATA

Kindly note the following rectifications in JIIA Issue of September 2023 (Vol. 88, Issue 09):

p. 93 :

Sr. No	Associate to Fellow	Membership No.	Place
1	Ar. Sircar Ritam	F14010	West Bengal

p. 98 :

Sr. No	Associate	Membership No.	Place
227	Ar. Umesh Chandar Khandekar	A27779	Sangli



AWARD CATEGORIES



Great Master's/Chairman's Award

Once in 3 years (Next due in 36th JK AYA)

Green Architecture Award (Environment Conscious Design)

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

Indian Architecture Awards (IAA)

Eligibility: Any Indian Architect

Indian State Architecture Awards (ISAA)

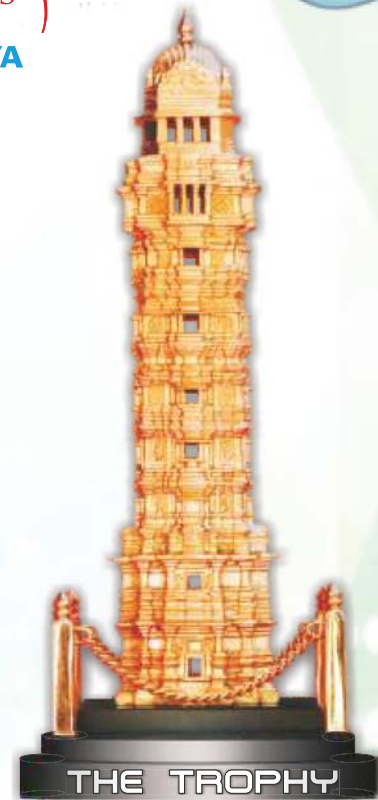
Eligible Status/UT: State by Rotation

Foreign Countries' Architecture Awards (FCAA)

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

Architecture Student of The Year Award

Eligibility: Final Year Undergraduate students of Indian Colleges



RPS-06/2022

**34th JKAYA shall open for participation for sending entries
From 1st January, 2024**

www.aya-jkcement.com

For Award Information :-

Please Contact Award Secretariat :

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