THE
IIA NATIONAL AWARDS
FOR EXCELLENCE IN ARCHITECTURE 2022

COVERING WORKS COMPLETED BETWEEN 1ST JAN 2019 TO 31ST DEC 2022

JURIES | 22ND MARCH 2024
AWARD CEREMONY | 23RD MARCH 2024

CURATED BY
THE IIA NATIONAL AWARDS COMMITTEE
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**THE IIA BRIHAN MUMBAI CENTRE,
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Art by Ar. Annette Morais

UIA2024KL INTERNATIONAL FORUM
KUALA LUMPUR | 15-19 November 2024

CALL FOR PAPERS
DIVERSECITY for Humanity and Sustainable Growth

The objectives of the UIA 2024 International Forum Kuala Lumpur (UIA2024KL) is to provide opportunities for the public, architects, urban planners and policy makers to participate in a series of enriching programmes invigorating discussion on culture, heritage, sustainability, equity and ecology to achieve humanity and sustainable growth.

All accepted papers will be published in MAJ (free) and selected papers will be published in indexed journal (additional charges may apply)

SUB-THEMES

Sub-theme 1
Culture and Heritage

Sub-theme 2
Density and Sustainable Growth

Sub-theme 3
Equity and Ecology

EXTENDED DEADLINES

NEW EXTENDED KEY DATES
- 01 July 2023: Open call for papers submission;
- **31 December 2023: Deadline for abstracts submission;**
- 31 January 2024: Notification of abstracts acceptance;
- **30 April 2024: Deadline for Full Paper submission with abstract;**
- 31 May 2024: Notification of Acceptance / Authors receive feedbacks;
- 30 June 2024: Deadline for authors to submit revised papers if asked to do so by peer reviewers;
- **31 August 2024: Final paper submission by authors;**
- 15 – 19 November 2024: Presentation of Paper at the UIA 2024 International Forum Kuala Lumpur

Submission procedures available https://uia2024kl.majournal.my
UIA2024KL website > https://www.uia2024kl.org

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EDITOR'S NOTE

Dear Fellow Members of the Indian Institute of Architects,

Wishing you all, IIA fellow members, a Happy New Year 2024!

It's a new beginning for all of us. I believe we will collectively make it the most fruitful year for the fraternity. This year began with the very auspicious *Pran Pratishta* of Ram Mandir at Ayodhya on 22 January 2024. It marks the relevance of the architecture of ancient India. It creates a sustainable inquiry into the building process and raises awareness of the relevance of Indian architecture. *Sthapati* Chandrakant Sompura and his son, Ashish Sompura, with ancient wisdom, were able to create the architectural gesture in the form of a temple that is going to last forever. In light of sustainability, we look only at the limited window of capitalism where we cherish the 'product', as the 'end of a process', even in case of buildings. This only goes towards creating demand at a greater frequency. It is time to think and reflect on our *Bharatiya* ethics of life and building processes, where sustainability will be addressed in its truest sense.

The new year for IIA started with a bang, showcasing the sportsman spirit of architects in India, cultivated amongst the architectural fraternity. It is a much-needed relaxation for hardworking minds and training for the body to sustain the physical mistreatment induced by a hectic yet sedentary lifestyle. This sports extravaganza started with IIAPL Golf Season 2.0 hosted by the IIA Jammu & Kashmir Chapter under the able leadership of Ar. Vikas Dubey. Architect-golfers from all over the country participated in this tournament held at the prestigious BSF Golf Course in Jammu. This Sports Carnival reached its peak with the IIAPL main event organised by Chatrapati Sambhaji Nagar Centre under the Convenorship of Ar. Sunil Dhale, attended by more than 475 architects from all over India for various sports. It only shows how our fraternity and IIA look after the 360⁰ development of its Member Architects, which has been the vision of our Vice President, Ar. Jitendra Mehta.

The start of the year also shows great hope for collaboration between the various stakeholders in our profession. We saw the dialogue on a common platform between the presidents of the Council of Architecture- our statutory body, IIA- our professional body, the Indian Society of Landscape Architects- ISOLA and the Indian Institute of Interior Designers- IIID, which shows great promise of Indian progression in its expression of the built environment. I hope these dialogues continue over time, enriching our profession and Indian architecture.

We at IIA have geared up for the most eventful year, which has shown through various events organised by various Chapters and Centres all across India. I hope this *Uttarayan* of *Makar Sankranti* will add up to various national and regional events for the upcoming year 2024. I wish the best for all successful events of IIA in 2024 and we hope to cover all of them through the JIIA platform.

An appeal to all the IIA members to contribute to JIIA in terms of articles, projects, research papers and most importantly, in terms of sponsorship and funding. Thank you for your continued support and readership.

We wish you a joyful and prosperous new year filled with architectural wonders.

Prof. Vinit Mirkar
Editor

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Dear Fellow IIA Members,

Warm Greetings to one and all for a very Happy 2024!

It's a matter of pride that the Second IIAPL Golf Tournament, a maiden initiative by the IIA Sports & Culture Committee was hosted and organized by IIA Jammu & Kashmir Chapter at Jammu at the exclusive Border Security Force (BSF) Golf Ground. Even though it was freezing temperatures, the IIA member-golfers enjoyed the game. This time women architects also proved their mettle at this sport. The success of the tournament is owed in large part to the generosity and permission granted by the BSF to utilize the PTA BSF Golf Course as the venue. The picturesque, well-maintained course provided an ideal backdrop for the event, contributing significantly to its overall success. The IIAPL Golf Tournament Season 2 would not have been possible without the invaluable assistance and co-operation provided by BSF. IIA extends heartfelt thanks for the support and cooperation received from the BSF.

Friends, I am really happy to see all the Chapters and Centres working very hard to promote and make the outreach of IIA even stronger. They are continually working towards membership growth, which helps IIA Sub-Centres to grow into Centres.

I also appeal to members at large to participate in the *IIA Awards for Excellence in Architecture*, which will be hosted by IIA Brihan Mumbai Centre of Maharashtra Chapter. The date for registration and submission of entries has been extended so that all find it convenient to participate. Do take advantage and make the IIA Awards successful.

My best wishes to all participants.

Ar. Vilas Avachat
President, IIA

Grandeur of Jammu & Kashmir's Architecture

In the spirit of the IIAPL Golf Event Season 2 held at Jammu by IIA Jammu and Kashmir Chapter, this month JIIA pays homage to the rich heritage of the City of Temples. The design of the cover page thoughtfully encapsulates the essence of the event, the region's cultural richness and its unique architecture. It reflects the grandeur of the golf event and the distinctive charm of J&K's architecture within the outline map of Jammu and Kashmir.

The design captures a dynamic golfer mid-swing against the backdrop of J & K's iconic architecture, blending the region's picturesque landscape with golf imagery. The architecture is subtly incorporated, perhaps through a stylized depiction of iconic structures, creating a visually engaging introduction that captures the essence of the event against the backdrop of this scenic region. This juxtaposition symbolizes the fusion of sport and culture, emphasizing the harmony between the traditional and the contemporary.

The background landscape depicts the iconic landmarks of this state: the Chenab Rail Bridge, an engineering marvel that proudly claims the title of the world's highest rail bridge. Spanning the mighty Chenab River with its towering arches, this bridge not only serves as a lifeline for transportation but also symbolizes human ingenuity conquering the formidable forces of nature.

Jammu's architectural heritage is further embellished by the sacred precincts of Manwal Temple, Raghunath Mandir and the ancient Krimchi Temples with historical significance in Udhampur, where the devout find solace in the serenity of their surroundings. These ancient structures, adorned with intricate carvings and ornate facades, resonate with the echoes of centuries-old prayers and rituals, serving as sanctuaries of spiritual nourishment for pilgrims and seekers alike. They emphasize the region's ancient roots and the importance of preserving its cultural treasures

The Mubarak Mandi Palace and Amar Mahal Palace, with their regal splendor and architectural finesse, offer a glimpse into the opulent lifestyle of Jammu's erstwhile rulers. Standing as proud custodians of the region's royal legacy, these palaces are not just architectural marvels but living repositories of history, housing priceless artifacts, exquisite artworks, and timeless tales of valour and intrigue.

The cover page design evokes a sense of anticipation and excitement, enticing participants and spectators alike. The color palette is inspired by the natural hues of the region- lush greens symbolizing the pristine landscapes, and touches of warm browns and earthy tones to signify the rich architectural heritage. The imagery and overall aesthetic convey the prestige of the golf event while celebrating the unique cultural identity and pride in the rich heritage of Jammu and Kashmir.

Snehael Goel, (applied for IIA membership) hailing from the state of Jammu and Kashmir, is currently a Final Year student of the Bachelor's course in Architecture at Guru Nanak Dev University in Amritsar. She looks forward to the fusion of art and functionality to take her forward in the world of architecture and interior design.
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JIIA Call
for Papers, Articles, Projects

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

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

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

Category 1 : Articles
google form link: https://forms.gle/7pDFva1HDH4hfUyj8
Essays, interviews, articles (1500- 2500 words), book reviews (600 and 750 words), travelogues, sketches and photo-essays in the areas of architecture, planning, urbanism, pedagogy, heritage, technology, ecology, theory and criticism, visual design, practice or any other relevant subject pertaining to the built environment. (Details of the format will be available on the JIIA website).

- For a design project, please include the 'Fact File' with the following details : Project Name, Location, Plot area, Total built up, Structural consultants, Project completion. Also please give the photo captions and credits. Please ensure that the image is referred to within the text. For eg, "As seen in Figure 1…". This is essential for the layout.

- For design projects, plans and sections of the project are desirable along with the photographs.

- Book reviews should be only of books by Indian authors. please include the "Fact File" with the following details: book title, author name, publisher, year of publication, ISBN, language the book is written in, genre (technical/ fiction/ etc.), no of pages, dimensions (in cm), type (Kindle/ paperback/ hardback), available at (amazon.in/ flipkart.com/ others).

- Please send a write-up of about 200-300 words along with sketches and photo-essays.

Category 2 : Student Work
google form link: https://forms.gle/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
google form link: https://forms.gle/Ru4JBLSHwaYEBTcg7
(a) *Chapter News:* This includes various interesting activities from the Centres of your Chapters (maxm. 500 words for the news from the *entire* Chapter).
(b) News of conferences by the academic institutes in your respective Chapters.
(c) *Obituaries :* Obituaries of IIA members should consist of the photograph of the departed soul, the dates of birth and death and a short 50-word note.

Category 4 : Research Papers
google form link: https://forms.gle/Z9YWQQMaw843N1eT6
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
google form link: https://forms.gle/BSkuE5cApXdy7dX1A
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 : jiiaeditorial@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.

RESEARCH PAPER

Analysing COVID-19 Pandemic Experience and Imperatives

Enhancing Urban Resilience Focusing on Tactical Urbanism-based Interventions

By Prof. Smita S. Ogale, Ar. Anuja Ningune, Dr. Vasudha A. Gokhale

Abstract

History bears testimony to the fact that pandemics have shaped the planning and configuration of cities. Several cities around the globe used a tactical urbanism approach, implementing different urban-level interventions to support COVID-19 mitigation strategies, including India. It is imperative to identify what strategies and measures spatial planning can offer beyond acute crisis management in the face of disruptive events in the Indian context. This research attempts to decipher the role of tactical urbanism (TU) -based approaches adopted in Indian cities. The trajectories of such interventions are explored using the questionnaire survey. Based on the Protection Motivation Theory (PMT), people's perception of the need for TU measures is examined. The analysis revealed the need and acceptance of such interventions during and after the pandemic. It has surfaced that, in Indian cities, the tactical urbanism-based interventions were clouded by the moment's immediacy and were temporary. They did not transform or refine the practices, leading to a profound transformation in the urban realm. It is argued that COVID-19 catalysed tactical urbanism-influenced measures that sparked a change leading to permanent solutions that did not materialize in India, as compared to other countries, stressing the need to render the urban environment safer and capable of handling such unprecedented emergencies.

Keywords: pandemic, restrictions, interventions, guerilla, efficacy

1. Introduction

Cities, often the worst hit by epidemics due to sheer population and congested living conditions, have evolved to solve problems of sanitation, hygiene, and health access, simultaneously catering to urban dwellers' aspirations regarding space and opportunities (Martínez & Short, 2021). The cholera outbreaks of the nineteenth century and the Great Flu of the 20th century took their toll on prominent cities across continents. The Novel Coronavirus is neither the first nor last to strike our cities. It has left behind a trail of devastation in many cities and is the deadliest viral pandemic since the emergence of HIV

in 1981 and the worst airborne virus since the Great Flu of 1918–1920. It is the first time an airborne pandemic has gone global in the age of widespread commercial air travel (Florida, Rodrıguez-Pose, & Storper, 2021).Lockdown measures were enforced worldwide, creating new conditions for the cities and everyday life and flattening the curve of COVID infections; without an immediate medical solution, 'social distancing' was prescribed as a non-pharmaceutical intervention to slow the spread of COVID-19 in the communities. The public life of cities was the most affected by the economic and social repercussions of the pandemic and the subsequent remedial lockdown and social distancing policies of governments. Lockdown and social distancing have impacted transport and mobility profoundly (Vatavali, Gareiou, Kehagia, & Zervas, 2020).

Since immediate changes were required to be made to the public spaces to integrate social distancing, the use of tactical urbanism was the most effective and almost instantaneous solution that could be effected by using frugal means like colored paint, planters, and traffic cones in order to create a guideline for people to use the space with the added layer of social distancing in place (Abdelkader, Khalifa, & Elshater, 2023). Tactical urbanism responded to the challenges posed by the pandemic, even by street art. Several cities around the globe implemented different tactical urbanism interventions to support COVID-19 mitigation strategies (Kurniavati, 2021).

A matter of concern is how spatial planning should adapt its approaches, methodologies, and future expectations in light of the experiences gained through the pandemic. It is uncertain whether the impacts of COVID-19 will be as profound as they are in other facets of life, how long these impacts will be felt, and the degree to which they will be transformational. This research examines the phenomenon of Tactical Urbanism as a tool for limiting the impact of the pandemic to achieve resilience against such occurrences in the future.

2. Tactical Urbanism : The Notion and the Concept

The term 'tactical' is defined as 'relating to actions and strategies, or done for achieving a certain thing,' a small-scale action serving a larger purpose, or 'skillfully executing a purpose'. Mike Lydon, an urbanist and planner, who headed the New York City Streets Plan Collective, first theorized Tactical Urbanism to advocate for high-quality public spaces (Graziano, 2021). He referred to it as a short-term action for long-term change and an approach to neighborhood building and activation using short-term, low-cost, and scalable interventions and

policies. In the beginning, it was labeled with many terms such as 'guerilla urbanism,' Pop-up urbanism,' 'city repair,' or 'do-it-yourself- DIY-urbanism' that share familiar modus operandi, aims, and objectives. It possesses anti-authoritarian characteristics following a bottom-up approach at the grassroots and aims to enhance the urban lived experience through incremental improvement strategies. Tactical urbanism (TU) strategies work to allocate temporary use to spaces of variable scales in a light way so as to make improvements to livability, economy, and social capital, an achievable task. This term represents the global phenomenon of informal interventions in the urban fabric, including cultural and physical aspects where interventions are temporary, low cost, quick to install and dismantle, informal, spontaneous, participatory, and community centric. (Courage, 2013). Tactical urbanism interventions are time efficient in terms of design, planning and getting approval. Their temporary nature makes them quick to execute and experiment with (Abdelkader, Khalifa, & Elshater, 2023).

Tactical urban design strategies are currently most preferred in cities globally, often initiated in the form of the provision of urban amenities like pedestrian crossings and street furniture by people who are discontented with stereotypical urban design (Alisdairi, 2014). The need for it arises due to the severe governance crisis in contemporary cities in which both government bodies and market forces still need to deliver essential public goods such as housing, transport, and places of public use, catering to rapidly expanding urban populations. It is a general process that handles a broad range of emergent, preliminary, exploratory and impromptu urban projects (Brenner, 2015).

3. Tactical Urbanism Amid the COVID-19 Pandemic

Since its inception in the urban domain during the pre-COVID period, tactical urbanism has been a quick and affordable approach to piloting and practically demonstrating change in the urban scenario, led by either planning authorities or civil society. It identifies a current need and then reallocates road or other public space using temporary, frugal, and expandable interventions to catalyze long-term change (Mohankumar, 2020). Typical examples include public transport or service improvements, bicycle lanes, traffic calming, pedestrian crossings, place-making, seating, way-finding, extended sidewalks, and road layout changes (Jobanputra & Gennings, 2021). The COVID-19 pandemic offered a unique opportunity to test urban interventions

that could reduce environmental health risks and inequities. The pandemic made it imperative to design pop-up solutions with a prolonged vision to support a more permanent and healthy urban design. It was visualized that post-COVID-19, tested and effective tactical urbanism interventions could guide permanent and healthy equitable urban design (Rojas-Rueda & Morales-Zamora, 2021).

Cities worldwide were forced to adapt to health protocols by experimenting with urban spaces to meet activities' needs, support local economies, and provide daily necessities. With everyday activities coming to a standstill in the pandemic, neighborhoods, workplaces, and places of worship that were once a part of our daily lives were severely impacted, and people had to bear the brunt (Counted, Neff, & Cowden, 2020). It was required that 'social distancing' be integrated or built into the physical space to continue using these spaces during the pandemic. However, the organized nature of our cities is often resistant to abrupt changes, compelling the calamity may be (Kasinitz, 2020). Activities that did not demand physical presence could be efficiently continued with technology. However, for activities requiring human presence, several sustainable practices and strategies, such as Tactical Urbanism, emerged to tackle the social distancing needs of cities (Graziano, 2021). The mutations of the COVID-19 virus and the consequent 'waves' of infections indicated that physical distancing could remain in place for some time. This called for swift action to retrofit public spaces in order to render them safe and support social activity at the same time (Daly, Dovey, & Stevens, 2020). Some changes persisted after the immediate threat passed, whether for their public health benefits or because people enjoyed them. The outcome of the forced experiment of lockdown and social distancing led to more permanent changes in where people live and work (Florida, Rodrıguez-Pose, & Storper, 2021).

4. Sustained Tactical Urbanism Measures across Global Cities

During the Pandemic, increased access to outdoor spaces and physical activity helped minimise the lockdown and isolation's negative physical and mental impacts. In U.S. cities, the required width for sidewalks is 1.5 m (5 feet) and for bike lanes 2 metres (6 feet). This and similar situations across several world cities triggered the creation of wider sidewalks through tactical urbanism measures (Rojas-Rueda & Morales-Zamora, 2021). The European, cities of Paris, Milan, Berlin and Barcelona created new 'pop-up' cycling lanes prohibiting motor traffic, making

news in international media. Since then, most of these alterations have also been made permanent (Nello-Deakin, 2022). The authorities of Barcelona undertook various emergency measures to reallocate the carriageway of a number of streets from motorized traffic to public transport, using tactical urbanism principles and elements (Nello-Deakin, 2022). In Dublin, parking spaces and loading bays in the city center were reclaimed to provide more space for pedestrians. New Zealand had created a tactical urbanism fund for emergency bike lanes and footpath widening (Daly, Dovey, & Stevens, 2020). Bogota applied numerous initiatives in public space, especially in the open 47-mile bicycling track for healthy and hygienic mobility. Cities in Italy use new mobility programs, such as Intelligent Move in Genoa, the sustainable urban mobility program in Bologna, and new bike lanes and sharing mobility in Florence (Kurniavati, 2021). The government of Boston has launched the Healthy Streets Initiative, which has expanded sidewalks in business districts and pop-up bike lanes, closing city roads to traffic and allowing pedestrians and cyclists to reduce traffic speed and increase social distancing. In an innovative move, the New York City Department of Transportations closed down 100 miles of paved streets and converted them for pedestrians and bicycles in order to de-densify the sidewalks (Sharma, 2021). New York City has seen significant changes, from permanently closing city streets, such as Broadway Street, to allowing businesses to set up shop on its sidewalk. One hundred miles of streets have been closed and converted for pedestrians and bicycles. It has also started the Open Restaurants program, allowing businesses to have restaurants on either the curb or sidewalks. They have reallocated public spaces like the 'Space under A train line' being repurposed to create more public areas that can be used for various purposes like testing, increased accessibility to hospitals, and community space. The German city of Berlin was one of the several European cities to develop pop-up infrastructure for cycling and the narrow lanes would not permit people to keep 1.5-2 metres apart (Jobanputra & Gennings, 2021).

In Cairo, due to the governing policy, public spaces are privatized and fenced, and occupied by private cars (Abdelkader, Khalifa, & Elshater, 2023). A recovery of rooftop life was observed in Mediterranean cities during the lockdown, along with age and activity-related timeslots for being outdoors. Change of use of some spaces was observed with a street closed to traffic being converted to a playground for some hours or an expecting plot being transformed into a temporary square, which later continued to serve

the same purpose (Martí & Espindola, 2020). In Philadelphia, Mexico City, Berlin, Vancouver, Bogota, Minneapolis, London and Milan, bike lanes were demarcated by paint and traffic cones. Similarly, in Indonesia, social distancing by colored paint lines and geometric signs, such as circles and boxes was used. Besides, stickers, masking tape, and warning signs were used on public benches, in queue lines, places of prayer, and even in drive-in concerts (Kurniavati, 2021). In Indian cities, several hand hygiene stations and sanitizers were placed in front of the entrance of every public building and store. The shopping areas were filled with painted circles and squares drawn on the ground while queuing up to buy essential goods that helped people stay safely apart, and barricades were placed to limit the distance between sellers and buyers. Temporary arrangements were in place to organize people's movement in a queue at shops and other civic spaces (Tagat & Kapoor, 2020).

5.   Conceptual and Theoretical Framework

This research considers COVID-19 a symptomatic incident, a disruption that will most likely re-occur in similar ways rather than as a unique event. It stimulates a discussion on the repercussions of COVID-19 taking into account the urban socio-spatial transformation adopted by local authorities to tackle an unprecedented health emergency. It analyses the principles of action, strategies, and measures beyond acute crisis management that can be offered to spatial planning in the occurrence of a disruptive event, focusing on Tactical Urbanism as the phenomenon. Theoretically, it is based upon the theory of disruption, which suggests that disruption is a sudden break or interruption of usual practice and break with established routines and models may lead to innovation and unintended positive and negative consequences (Christensen, 2006). The analysis is guided by the Protection Motivation Theory (PMT) developed by Rogers in 1975 to describe how people are motivated to react in a self-protective way towards a perceived threat. It comprised of four key elements: estimation of threat, gauging one's ability of coping, response capacity and self-efficacy. Here, response capacity represents the belief that specific processes will lessen the threat, and self-efficacy refers to an individual's idea of their capacity to perform the required actions to reduce the threat (Westcott, Ronan, Bambrick, & Taylor, 2017).

6.   Methodological Approach

The methodology that was used to examine the tactical urbanism-based interventions was the online questionnaire survey. The questionnaire included the observations in the first and second lockdown and post-pandemic scenarios regarding short-term measures adopted to curb the impacts of the pandemic. The sample size was 114, including respondents from different gender and economic groups. The questions revolved around respondents' perceptions of the impact of the pandemic on day-to-day social life, changes observed in day-to-day public spaces, pattern of use of short-term urban interventions during and post-pandemic, and the need and importance of such interventions during and post-pandemic. It included what lessons they learned during the pandemic, which may contribute to a transformational change leading to resilience against such health crises in the future. The data has been statistically analyzed to arrive at conclusions and graphically presented in the following section.

7.   Findings and Analysis

The data collected from the questionnaire survey is graphically presented in the following section. The sample includes 56% females and 44% males belonging to different economic groups living in different building typology.

From economic status perspective, it is found that the majority of the respondents had family income ranging from 25,000 to 45,000 INR per month, and 14% of respondent's income was up to 80,000 INR. However, 10% and 7% of respondents had a monthly income of 81,000 to 100,000 and more, respectively (Fig.1). Data analysis indicated that most of the respondents live in stand-alone apartments (48%) followed by bungalows (23%), 7% and 3% live in gated communities and row houses respectively, however,
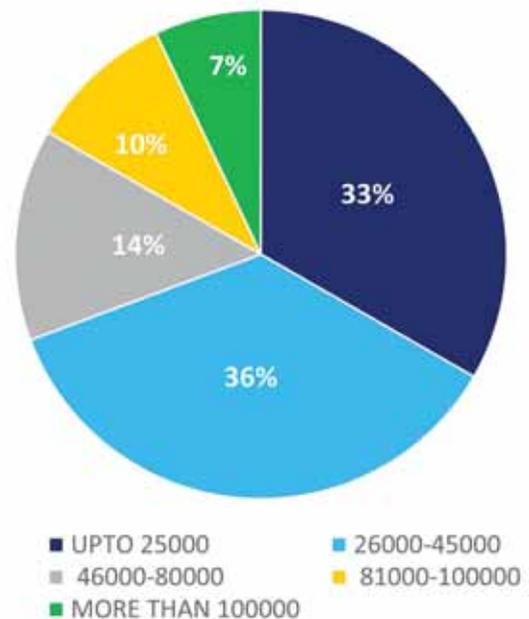
Fig.1: Family Income
Source: Authors
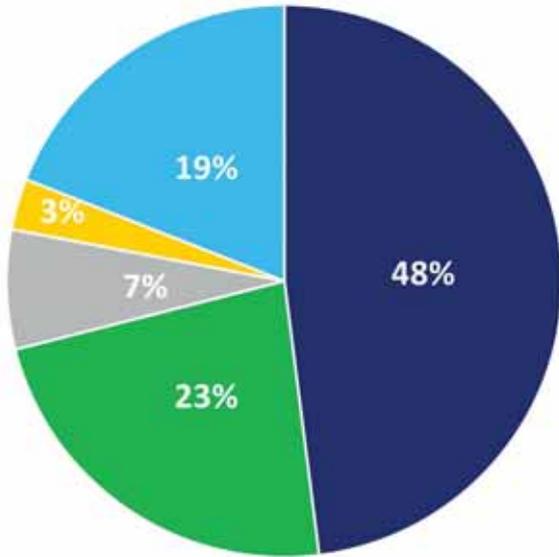
Fig.2: Residence Typology
Source: Authors

Fig.4: Changes in public facilities
Source: Authors

19% live in different categories of housing that cannot be classified as a standard building typology (Fig.2). People's perceptions of an emergency are often influenced by 'experiencing it' themselves or by family members. Data is gathered to explore this aspect, where the data analysis indicated that 30% of respondents had been infected with the virus, while infection reported to the family members was about 52% (Fig.3).

Changes in the provision of public facilities in response to the Pandemic were observed in the form of a modified existing facility (91%). The emergence of a new facility (80%), as shown in Fig. 4. In India, the first wave (FW) began in March 2020 and lasted almost till November 2020, while the second wave (SW) began in March 2021 and lasted till May-end (Zirpe, Dixit, & Kulkarni, 2021). During this period, many tactical urbanism-based measures were introduced,

such as placing disinfection facilities in public spaces and buildings, demarcating spaces with symbols and graphic signs to maintain social distancing, barricading and restricting entry to limit the spread of the virus. The status of such interventions was examined during the first and second waves, and afterward, the findings are presented in the next section.

Tactical urbanism-based interventions were introduced regarding disinfecting facilities, such as placing sanitizer dispensers and sanitizing kiosks at various daily shopping units and public buildings. Data analysis indicated that such facilities were largely present at medical stores, grocery shops, and clinics, followed by provisional stores and vegetable stalls. However, less provision was noticed at bus stands and railway stations at the onset of COVID-19. Marginal reduction in such facilities surfaced during the SW; however, in the post-pandemic period, it drastically decreased in most places other than medical stores and clinics (Fig.5).

Fig.3: Virus Infection
Source: Authors
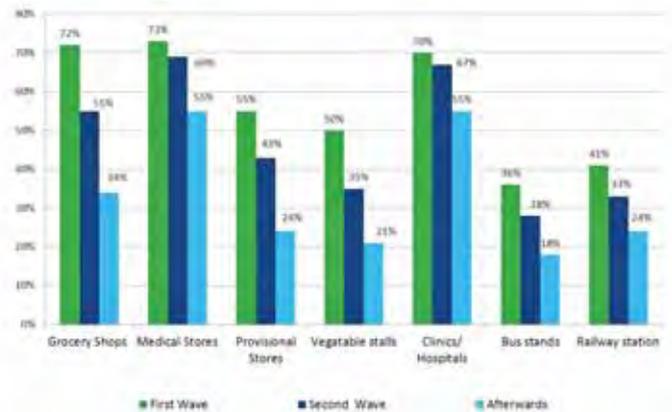
Fig.5: Disinfection seen at Facilities
Source: Authors

A large-scale presence of space demarcations was observed in painted circles on the floors of grocery shops and medical stores, followed by clinics. Such tactics were also used in others to a certain extent at the beginning of the pandemic. In the SW, such interventions were present with less reduction; however, in other places, it was reduced considerably (Fig.6). In the post-pandemic period, the existence of such measures was observed to a certain extent. However, to what extent they are used is questionable.
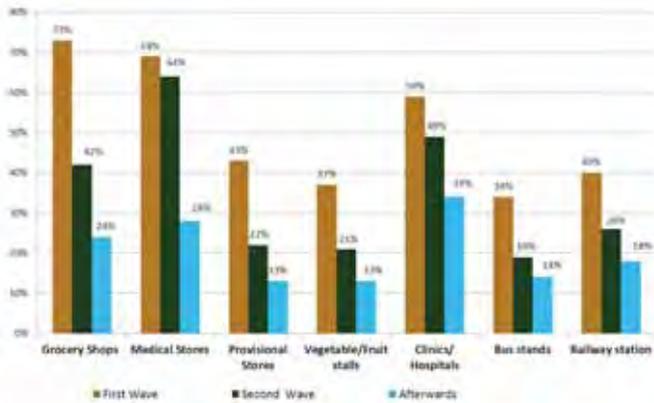
Fig.6: Social Distancing Measures
Source: Authors

Physical obstacles like barricades, belt barriers, and rope barriers are used for demarcating the queue section and were used mainly as interventions for funnelling people into a single line or even more lines to avoid physical proximity. Such measures were introduced in most grocery shops and medical stores, followed by clinics. However, its presence could have been more in other facilities. Such interventions were maintained at medical stores and clinics in the SW, whereas they were taken out in many places, as indicated by the responses. In the post-pandemic period, a proportionate decline in the use is observed in all the places (Fig.7). Restrictions to enter a facility or pass by were primarily used in railway stations, bus stands, and roads in at the beginning of the pandemic, which is considerably reduced in the SW of COVID-19. It is followed by medical shops, clinics, and grocery stores where entry of patients and customers was restricted to avoid direct contact with the doctor or shop owners. Such restrictions were gone through a gradual decline in the post-pandemic period seen in Fig.8.

Tactical urbanism is used as a concept, and many interventions based on it were introduced in Indian cities to curtail the spread of COVID-19 and save people from pandemic-induced illness. These measures were intended to help people to maintain social distance and were often forcefully
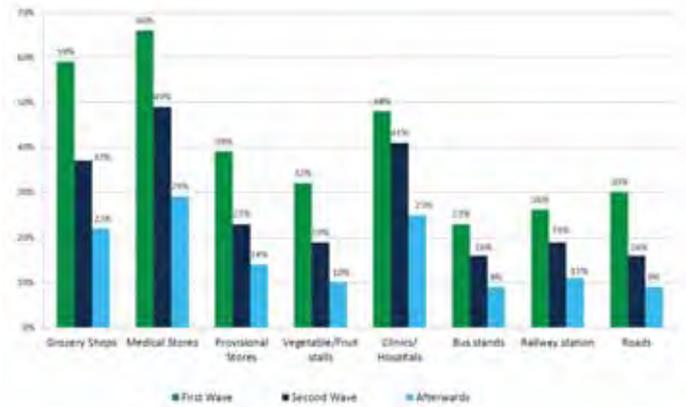
Fig.7: Barricading
Source: Authors
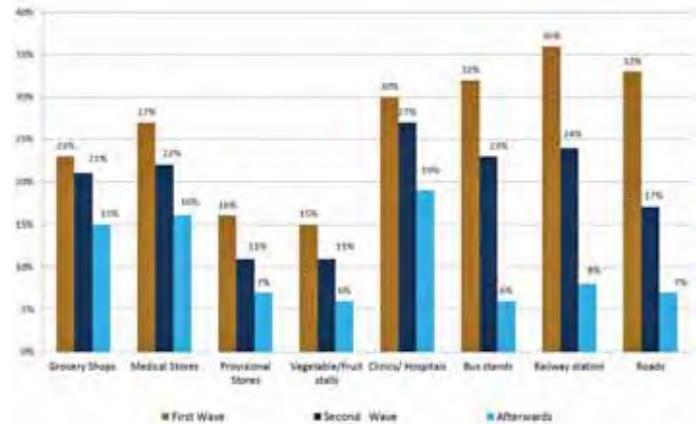
Fig.8: Restricted Entry
Source: Authors

implemented. What role played and need of such initiatives during and post-pandemic period was examined.

Analysis revealed that more than 50% of the respondents found such interventions very helpful, 33 respondents (29%) found them helpful, and for 18 respondents (16%), it helped to a certain extent. However, it did not help for six respondents. Whether the introduction of such measures provided an opportunity to modify their behaviour while moving in the public domain and they learned new mannerisms was the matter under investigation. Data analysis revealed that for about 72% of respondents, it was an opportunity to learn to equip themselves for such medical emergencies; however, 13% rated that they learned to a certain degree, while 15% did not opt this event as case to make them aware and prepared to face such emergencies in future (Fig.9). Need for tactical urbanism based interventions realized during and in the post pandemic period by more than 50% of the respondents followed by 22% found it is marginally essential, however, for 9% there is no need to have such measures in place
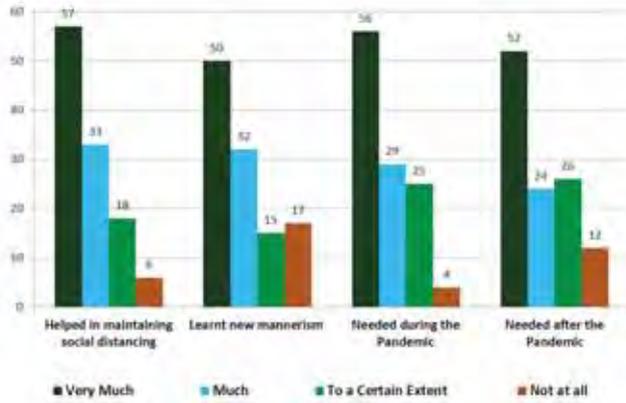
Fig.9: Role played by TU measures
Source: Authors
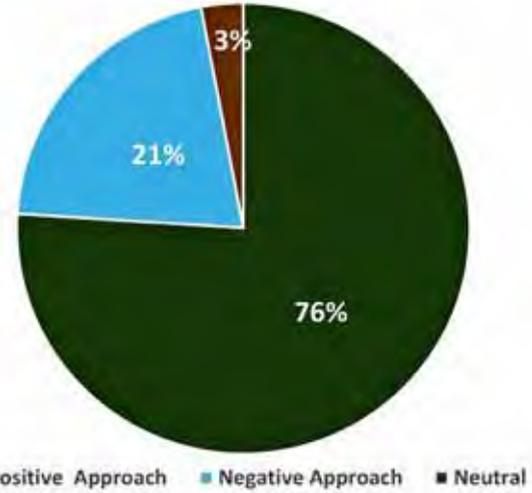
Fig.10: Perception about the Pandemic
Source: Authors

(Fig.10). For 76% of the respondents, COVID-19 was an unfortunate event with adversities. However, they have taken it positively, and they have learned many lessons. For 21% of respondents, this was a terrible event of all ills and destructive outcomes, whereas 3% had a mixed response.

Association between correlations between the two qualitative variables explored using chi-square test analysis with IBM-SPSS 10.0 statistical package (see Table 1).

Null Hypothesis (H_0) 01: Perception regarding impact of the pandemic has no association with gender.

Since the p-value is less than significance level ($\alpha = 0.05$), for variable 'learnt new mannerism', the H_0 is rejected. However, for other variables: Impact on day to day life, effect on social life and perception about the pandemic the p-value is more than significance level ($\alpha = 0.05$), hence the H_0 is accepted. It is statistically established that different gender followed various tactical urbanism based measures differently having an impact on their behaviour and learning new way of life, new mannerism while using the public spaces. However, the relationship with the other variables viz., impact on day to day life, effect on social life and perception about the pandemic is different to a certain extent but not statistically significant (see Table 2).

Table 1: Impact of the Pandemic
Source: Authors

Variable		Value	df	Asymp. Sig. (2-sided)	Decision
Impact on day to day life	P	6.697[a]	3	0.082	Null hypothesis accepted
Learnt New mannerism	P	17.236[a]	1	0.000	Null hypothesis rejected
Effect on social life	P	4.443[a]	2	0.108	Null hypothesis accepted
Perception about the Pandemic	P	1.372a	3	0.712	Null hypothesis accepted

Table 2: Need and Importance of TU based measures
Source: Authors

Variable		Value	df	Asymp. Sig. (2-sided)	Decision
Self					
During the pandemic	P	1.801[a]	3	0.615	Null hypothesis accepted
After the pandemic	P	2.517[a]	2	0.284	Null hypothesis accepted
Family Members					
During the pandemic		1.058[a]	3	0.787	Null hypothesis accepted
After the pandemic	P	1.276[a]	2	0.528	Null hypothesis accepted

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Null Hypothesis 02: Perception regarding need and importance of tactical urbanism based measures during and post the pandemic have no association with experiencing the infection

As the p-value is more than significance level (α = 0.05), hence the null hypothesis is accepted and alternative hypothesis stands that the importance and need was felt irrespective of respondents' own of any family member's experience of getting infected by the virus.

8. Conclusion

The local government had put many restrictions with temporary urban interventions for people's mobility in public places at the beginning of the pandemic, which was later taken off. To maintain social distancing, yellow/ white painted circles were seen in front of grocery and medical shops and at hospitals during the first, which was followed strictly, but in the second lockdown, despite the presence of these signs, hardly any of these were in use as reported by the respondents. Keeping social distancing through tactical urbanism-based measures was successful during the pandemic as it was forcefully implemented to a certain extent, coupled with people's fear of getting infected. However, in due course of time, such restrictions were lifted by the government, and people felt relieved and started acting as usual without any change in their behaviour. As the barricades placed to channel people in public places or while shopping were removed post the second deadlier wave, the activities started operationalizing in a disorganized manner. As people became aware of the controllability of the epidemic, they gradually started paying less attention to the risk of being exposed. Research indicated an underestimation of the risk due to familiarity of the new normal in people's lives. It is observed that inventions like adding cycle tracks, using unused spaces for parks, for various outdoor activities, and promoting walking were not adopted in the Indian context as seen in other countries. The tactical urbanism-oriented interventions introduced during COVID-19 were minor and temporary, and there was hardly any scope to become permanent. Across both waves, respondents indicated that they favoured adopting TU-based measures with the belief that it could contain the spread of COVID 19. Initially, people showed positivity in following social-distancing practices through TU-based measures, but after a certain time, they viewed this as a hindrance.

Statistical analysis indicated that different genders accepted the situation created by the pandemic differently, where female respondents modified their behaviour by learning a new code of conduct and new principles while moving into the public domain. However, for male, following various restrictions supported by TU measures were followed as a compulsion for a certain period and forgotten forever. People's perception regarding need and importance was not changed whether they or any of their family members had experienced the virus infection.

The responses supported the Protection Motivation Theory (PMT), as people recognized the critical role played by TU measures during COVID-19 and realized the need for such interventions during and during the post-pandemic period. Respondents perceived the acute nature of the pandemic and the likelihood of contracting the virus. TU –based measures were made available to support coping mechanisms. Based on individual efficacy, people responded with the belief that following social distancing norms with the help of TU-based interventions will help in containing the virus and mitigating the threat.

However, the measures and interventions were temporary and taken off by the providers and government bodies. This phenomenon did not support converting a welcome temporary measure to an everlasting entity. A new architecture and urban planning pattern has emerged during COVID-19 that has been influenced by TU-informed forms. In the current challenges, it becomes necessary to conceptually re-evaluate guerilla urbanism for new ways of architecture and urban development. Pandemic preparation protocols should become part of the city's development strategy. Lessons learned from the pandemic could bring new positive changes. Pandemics, while exposing the vulnerabilities of the urban setup, are also a driver of positive change in planning resilient urban forms of the future. The research established that COVID-19 catalysed a new era of Tactical Urbanism (TU) oriented towards pandemic resilience that can pave the way to a thriving urban planning and design and progressive policymaking future for cities.

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RESEARCH PAPER

How do Uzhavar Sandhai (public weekly markets) serve as a Catalyst for Social Interaction in Urban Open Spaces

A Case of Kanchipuram

By S. Sowmiya, G. Karteek

Abstract

Urban public spaces serve different functions in Kanchipuram. They are largely used to put up weekly markets called *uzhavar sandhai* in the locality, which is seen to be one of the most successful methods of direct marketing. These markets are regularly visited by people to meet their weekly grocery needs. Kanchipuram serves as a temple town and has no social interaction other than the pilgrimage visits to the temples. This research aims to explore the urban public spaces in Kanchipuram and how the *uzhavar sandhai* serves as a catalyst for the social interaction of the local people. The relationship between urban public space and social interaction has been linked to the sociability of these locations. Through sampling, the participants of different age groups were selected and interviewed to understand the factors these urban spaces and weekly markets serve to interact better with people. The major findings are that there is heavy footfall in urban open spaces when the *sandhai* is hosted; otherwise on other days people rarely visit the space.

Keywords: Farmers Market, Kanchipuram, Social Interaction, Urban Public Space, Uzhavar Sandhai

INTRODUCTION

Given the importance of social interaction which binds the city, this paper examines the different types of urban open spaces in Kanchipuram and explores how they provide a space for people to come together with the help of the *uzhavar sandhai* as an impetus. Social interaction and public engagement could be considered the key elements in urban space content that effect human connections and urban activities (Parsi, 2002). This paper makes an attempt to answer the question of how *uzhavar sandhai* serve as catalysts for social interaction in the urban public spaces. There have been several studies on Kanchipuram, its history, temples and the weaving industry, but not on the urban aspects and its growing population. This paper is thus an effort to fill that gap.

REVIEW OF LITERATURE

Any area, whether enclosed or not, that has been planned or set aside for planning- either entirely or partially- as a public garden, park, sports or recreational ground, pleasure ground, walk, or as a public space is referred to as an 'open space' (Ramlee, 2015). These open spaces play a great role in acting as a catalyst for the social interaction among the people of the city. These open public spaces serve a variety of purposes. Whenever an action is committed by an individual which is accompanied by a reaction from another individual, a mutual interaction has happened which is usually referred to as 'social interaction'. In such a case, a social relation has been formed between the two individuals (Ogburn, 2001). Kanchipuram is a temple city located in Tamil Nadu

which doesn't have many recreational areas for the people to interact.

In Tamil Nadu, the concept of creating Farmers' Direct Markets that directly connect producers and consumers while excluding traders and middlemen is known as *uzhavar santhai*, which was introduced in the year 1999 by the State Government under Shri M.Karunanidhi, the chief of Dravida Munnetra Kazhagam (DMK) (Jayaprakash, et al, 2016). It is one of the most effective marketing methods for agricultural goods. They are set up in these urban open spaces weekly, even at Kanchipuram.

While the urban open spaces in Kanchipuram are socially barren in the mornings, in the evenings these weekly markets are set up. People come to these markets regularly to buy their vegetables, and this space in turn acts as a space for social interactions. The interaction between citizens and their public spaces is a type of inseparable natural phenomenon. In cities, they serve as important hubs of culture and social contact (Amir, 2020). By initiating social relations in urban spaces, humans try to meet each other humans and fulfil their social needs (Fathi, 2012).

This research aims to explore urban public spaces as societal drivers that help create interaction spaces among the people. It explores how *uzhavar sandhai* serve as mediums for the people to create a sense of belonging with each other. Urban spaces are the sites of people's social lives which are determined by reasonable intellectual underpinnings, civic involvement in society and social behaviour founded on human values (Zare, 2015). Hence, one of human beings' basic wants, that is, is the desire to initiate social contacts and relationships is achieved. Social interactions and relationships are referred to as 'innate wants' and a tool to meet other needs. Human beings cannot flourish without establishing social links (Rafipur, 2003).

The simplest element of human life is social interaction. Individuals have a natural tendency to initiate social ties. For this, they generate situations for others to experience their social relations (Talebi, 2004). Understanding the function and importance of urban public spaces for both social and economic development of Kanchipuram will be a major aspect of this study. This research hopes to help improve the urban public spaces of Kanchipuram into a better and safer place for these interactions.
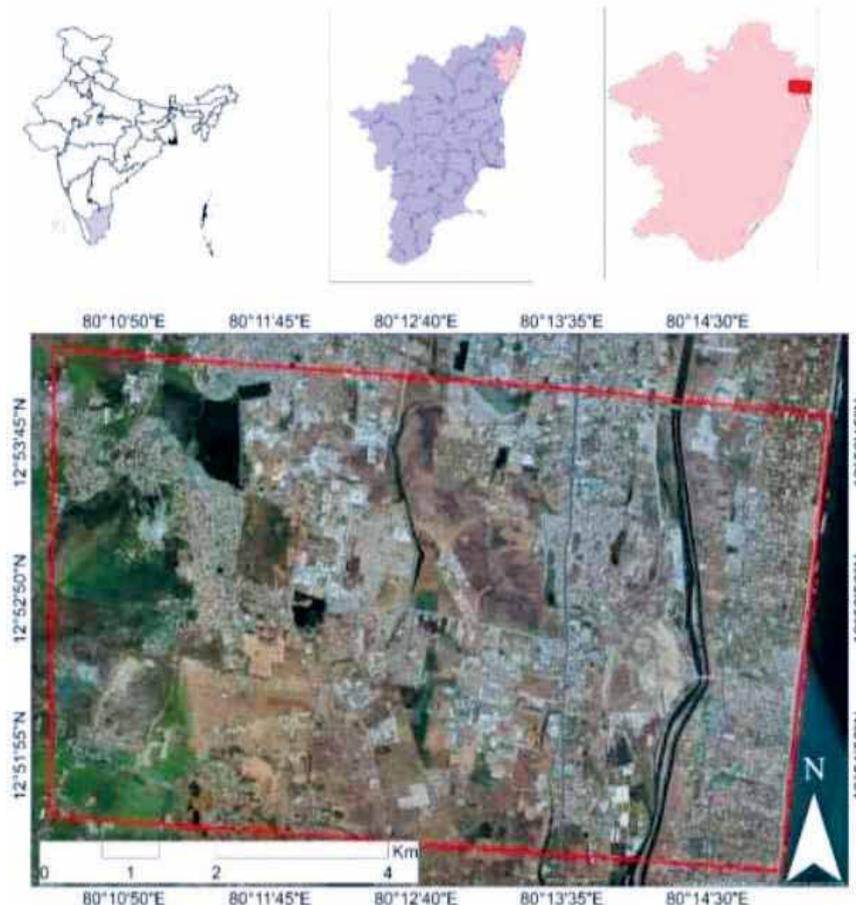
Fig. 1 : Location of study area
Source: Usamah, 2020

Fig. 2 : Location and road networks of Sevilimedu *Sandhai*
Source: Authors

METHODOLOGY

Location and Context of Kanchipuram

Tamil Nadu is situated on the southeastern coast of the Indian peninsula. It has an area of 1,30,058 square kilometres and is located between 8°5' N and 13°35' N and 76°15'E and 80°20'E. It shares borders with Andhra Pradesh and Karnataka on the north, Kerala on the west, the Bay of Bengal on the east and the Indian Ocean on the south. According to Usamah (2020), Tamil Nadu has an equatorial, tropical climate in the interior and an equatorial, maritime climate around its coastline.

Kanchipuram lies 72 km from Chennai, Tamil Nadu's capital. Kanchipuram, also known as the *City of a Thousand Temples* is renowned for its enormous temple towers, 1000- pillared halls and silk saris. People in Kanchipuram favour *uzhavar sandhai* above other retail establishments because their produce is more affordable and fresher than that of the competition. The research region has a total size of 45.36 sq.km and is situated between 80°10'55"E and 12°50'10"E (see Figure 1).

Study area

Three major *sandhai* of Kanchipuram has been selected for our study : Sevilimedu *sandhai,* Ayyampettai *sandhai and* Ayyangarkulam *sandhai*. These are the most famous and crowded *sandhai* of all. They are located within the Kanchipuram district
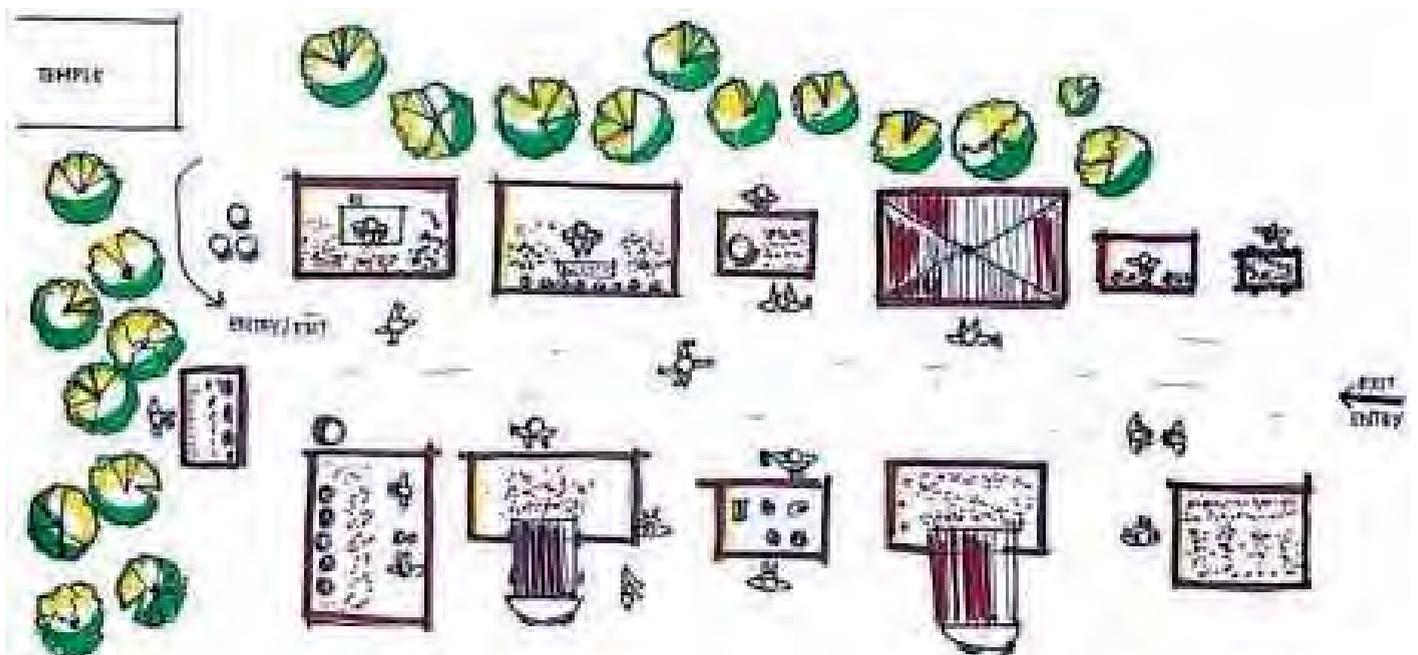
Fig. 3 : Open space layout of Sevilimedu *Sandhai*
Source: Authors

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Fig. 4 : Activities at Sevilimedu *Sandhai*
Source: Authors

and surrounded by neighbouring villages which increases the footfall at the *sandhai*. People interact in the open spaces here only during the days that the *sandhai* are held, otherwise the place serves just as an open land.

a) Sevilimedu Sandhai : This is located in Sevilimedu, a 5 minute-travel from Collector Office in Kanchipuram. It is a very small *sandhai* with about only 20 vendors. Consumers from the nearby areas buy vegetables for their weekly use. This market starts from 4:30 pm and goes on till 8:30 pm. Many people prefer this *sandhai* due to its proximity to Kanchipuram. This is the only market that is located within the city limits of Kanchipuram so its location plays a major role in footfall in this *sandhai*. This *sandhai* can be accessed from the Kamarajar Street. The details can be seen in Figures 2, 3 & 4.

b) Ayyampettai Sandhai : This is located in Ayyampettai, at 30 minutes travel from Kanchipuram Bus Stand. It is a very large *sandhai* with about 50 shops. Consumers from Ayyampettai and Kanchipuram buy vegetables and other daily items for their needs. This *sandhai* starts from 6:00 pm and goes on till 8:30 pm. This market is located near the hospital which makes it easy for the hospital's personnel to also get their needs here easily. The significance of the market is its location near the Government Public Health Care Centre, and that it is the largest market in Kanchipuram. The details can be seen in Figures 8, 9 & 10.

c) Ayyangarkulam Sandhai : Established in 2015, this is located in Ayyangarkulam at 30 minutes travel from Kanchipuram. It is located near a temple named Sri Sanjeevaraya Kovil, which plays a major role in the footfall of the *sandhai*. Most people who visit the temple buy vegetables from here. It is a large market selling vegetables and dried fish. People from Ayyangarkulam town and nearby areas buy the produce here as there are no other market nearby. It is the busiest on Fridays. The *sandhai* functions from 5:00 pm to 8:00 pm. The details can be seen in Figures 5, 6 & 7.

Sample Selection : The process of selection of sample was through convenience sampling method. The samples from the residents of the neighbourhood of the *sandhai* were selected and surveyed.

Sampling size : For collecting primary data a sample of 60 people who are regular customers of the *sandhai*.

Sampling Technique : For this research, survey methods, personal interviews and discussion with respondents were carried out.

Analytical Tools employed : Analytical tools like the Likert Scale, Tabular Analysis, Graphical Method and percentages were used.

Data collection

In the given study area, data was collected only from the primary sources. The primary data was collected

Fig. 5 : Location and road networks of Ayyangarkulam *Sandhai*
Source: Authors
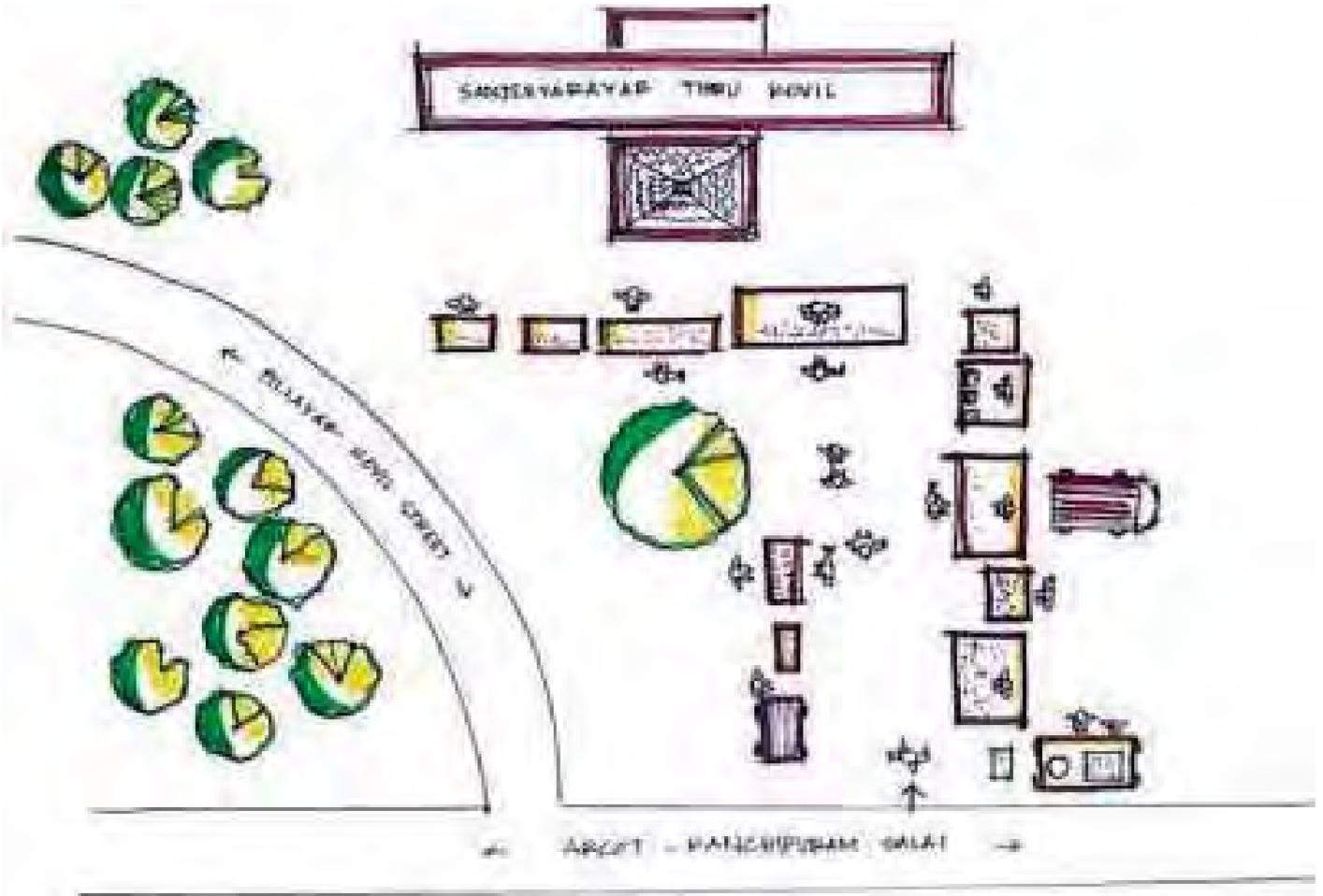
Fig. 6 : Open Space Layout of Ayyangarkulam *Sandhai*
Source: Authors

Fig. 7 : Activities at Ayyangarkulam *Sandhai*
Source: Authors

through interviews to the respondents who were residents of the areas near the *sandhai* and to all the people and who use it regularly and also from the sellers who sell their produce here. A total of 60 respondents were interviewed based on the time spent in the *sandhai*, why they go to interact, how many people they go together with and finally to understand how the *sandhai* serves as a social interaction place for the people. All the information

was carried out through a structured questionnaire. Informal interactions with the farmers also helped in understanding the social interaction of the people who visit the *sandhai* (Fig. 11).

Method of Analysis

The data collected from the interviews were analyzed through the Likert Scale. They were analyzed based on different questions regarding the time they visited the *sandhai* and how much time they spent there, etc., have all been surveyed and represented in the graphs in Figures 13 to 20.

Results and Findings

From the above research we can understand that mostly the people who are residing near the *sandhai* visit it often but also there is a considerable amount of people who travel about 5 km to reach the *sandhai* (see Figs. 12, 13 & 14). People visit the *sandhai* regularly once a week or at least once in two weeks. From Figure 15, one can understand that most of the people visit the *sandhai* to interact with people and to buy vegetables. People also visit this urban open space with friends and family (Figure 16) that further
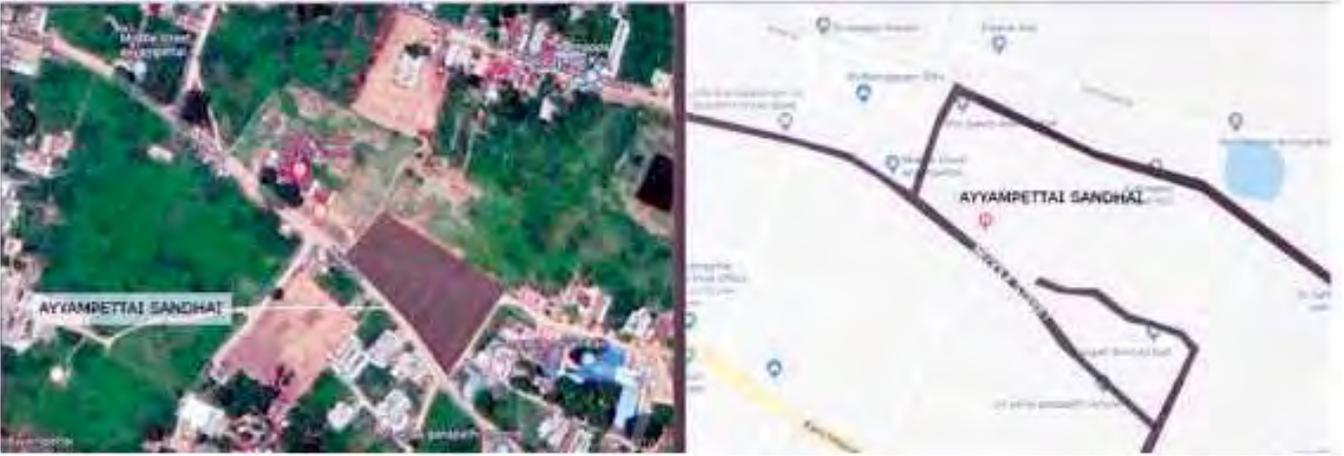
Fig. 8 : Location and road networks of Ayyampettai *Sandhai*
Source: Authors

helps them to create a conducive space to interact in (fig. 19). People spend a lot of time in a *sandhai* as a consumer from about 15 to 45 minutes. From figures 17 and 18 it is found that on non-*sandhai* days, people do not visit the space (fig. 20).

Conclusion and Discussions
Hence, it can be concluded that the *sandhai* serves as a catalyst for social interaction in urban spaces of Kanchipuram. The way urban open spaces are used by people helps understand the kind of places people require. This will guide urban designers to create spaces that will be liveable and active throughout the day, keeping safety in mind. This study has helped understand the factors which enable people use an urban open space.

Recommendations
Since the urban spaces are used only once a week during the *sandhai*, it is recommended that during the other days, other forms of activities like informal shops for silk saris, crafts markets, fairs, eating joints, passive recreational space with informal seating, walking and jogging tracks, enhanced vegetation for shading purpose can be introduced. These informal activities would not hinder the organisation of weekly
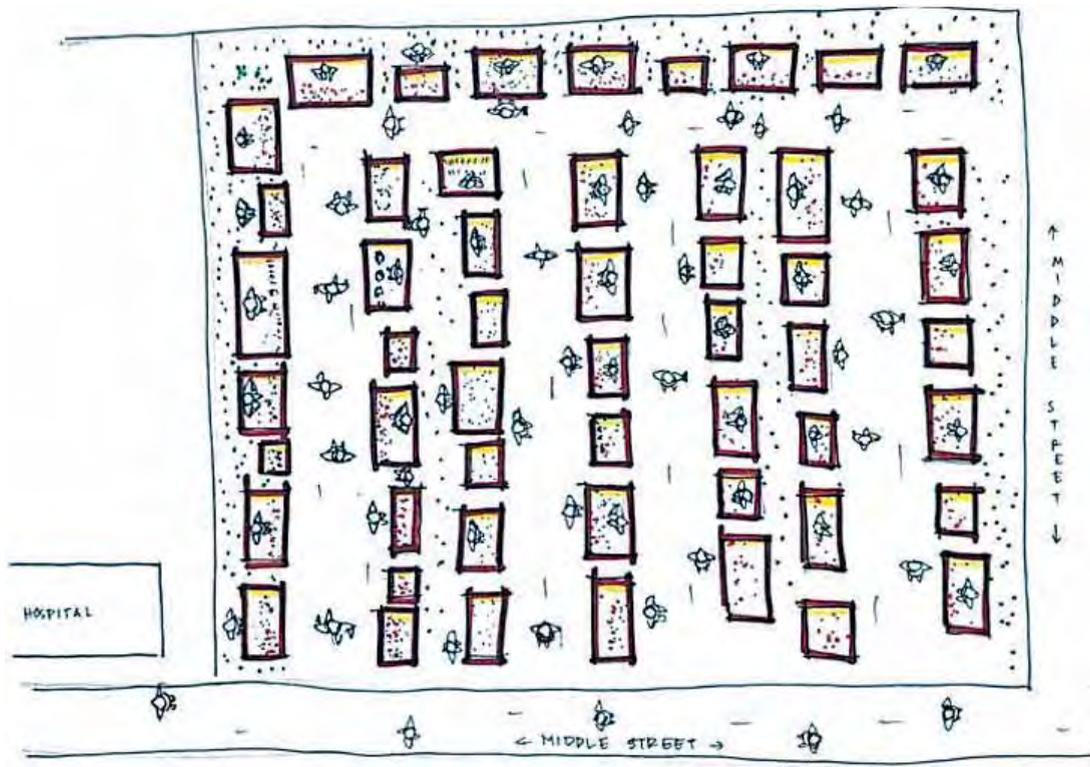
Fig. 9 : Location and road networks of Ayyampettai *Sandhai*
Source: Authors

Fig. 10 : Activities at Ayyampettai *Sandhai*
Source: Authors

sandhai in the location, because of the fact that the *sandhai* itself is an informal activity. Public amenities like toilets, waste management services, better lighting and security systems can be introduced so that people have a sense of safety while visiting the space at different times of the day throughout the week. This would also ensure that existing elements, like the temple at Ayyangarkulam *sandhai*, will get attention and can co-exist with these informal activities, even increasing the footfall at the temple. These recommendations are especially relevant in the context of Kanchipuram.

Fig. 11 : Methodology of Study
Source: Authors
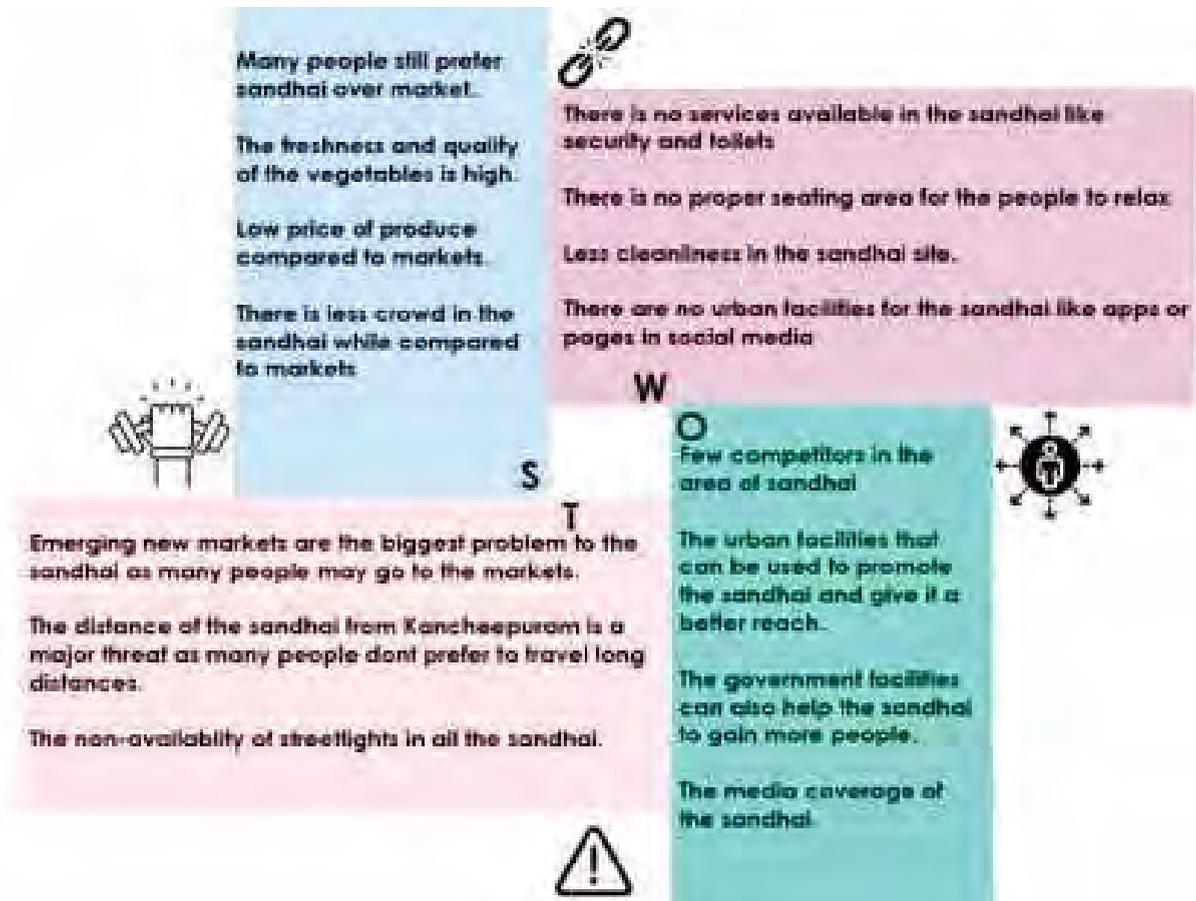
Fig. 12 : SWOT Analysis
Source: Authors
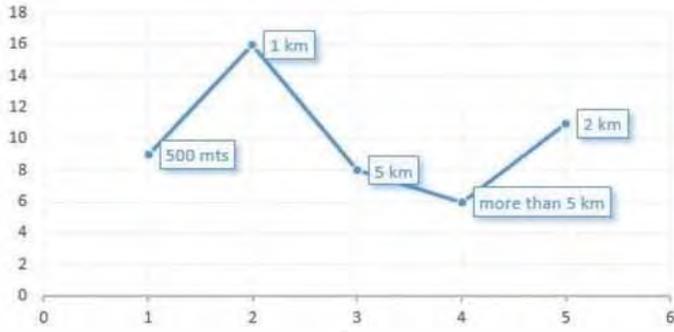
Fig. 13 : Distance of the *sandhai* from homes
Source: Authors
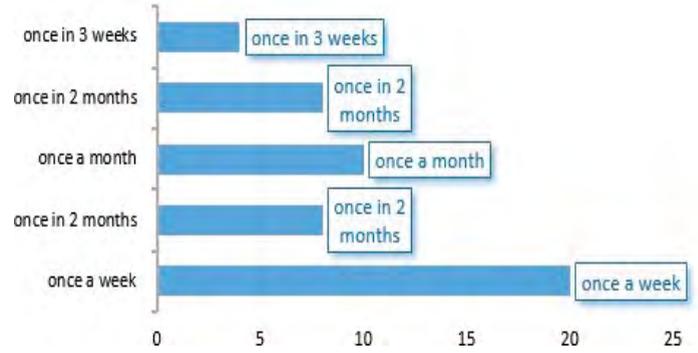
Fig. 14 : Frequency of people visiting the *sandhai*
Source: Authors
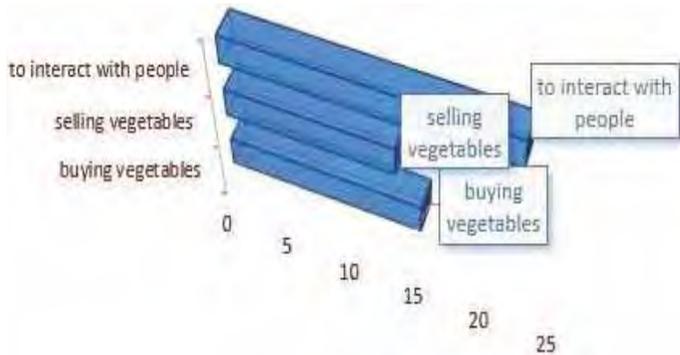
Fig. 15 : Reasons for visiting the *sandhai*
Source: Authors
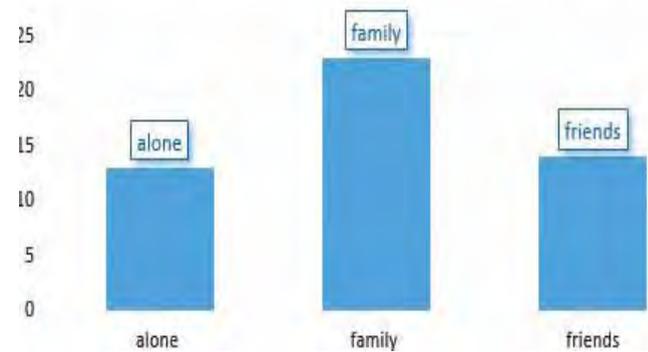
Fig. 16 : With whom people visit the *sandhai*
Source: Authors
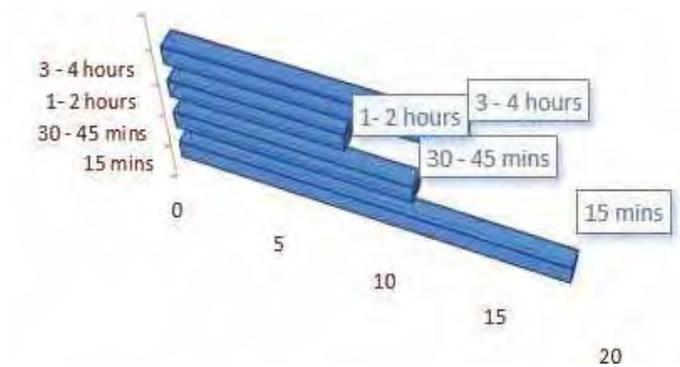
Fig. 17 : Time spent at the *sandhai*
Source: Authors

Fig. 18 : Frequency of interaction between people interact at the *sandhai*
Source: Authors

Fig. 19 : Suitability of the *sandhai* to interact with people
Source: Authors
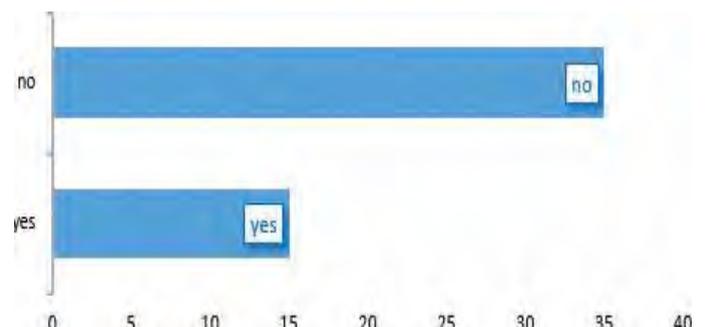
Fig. 20 : Incidence of people visiting the urban open space in the absence of the *sandhai* taking place
Source: Authors

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Vernacular Architecture of Maasai Village

By Ar. Ketki Salodkar

Fig. 1: Maasai Village near Oloolaimutia gate of the Maasai Mara National Reserve

Our journey of 280 km from Nairobi to 'Maasai Mara National Park' was a 6-hour drive by road with a brief stop at the Great Rift Valley viewing point. It was serene to watch the vast grasslands dotted with bushes, shrubs and boulders. Finally, we reached Enkorok Mara Camp, which is 2.5 km from the Oloolaimutia gate of the National Reserve. In the evening, we visited a Maasai village with a person accompanying us from the camp. We were kindly welcomed with their traditional song and dance. He briefly explained to us their customs and showed the practices they follow. I would like to share a few of my observations and experiences about the Maasai culture and their lifestyle.

1. HISTORY

Maasai Mara National Park was established in 1961 and got its name from the Maasai people, as they were ancestral inhabitants. Earlier it was a wildlife sanctuary, which was then extended towards the east in Southwest Kenya in 1974, thus acquiring the status of the 'Maasai Mara National Reserve'

spanning an area of 1510 sq. km. The terrain within the reserve is majorly open grasslands and rolling hills punctuated by seasonal rivulets.

2. INTRODUCTION TO MAASAI MARA NATIONAL RESERVE

One of the best wildlife destinations in the world, Maasai Mara National Reserve is amongst the few places on the earth where wild animals and their ecosystem exist in a highly protected environment. Maasai Mara ecosystem includes Lions, Elephants, Rhinos, Leopards, Buffaloes, Cheetah, Giraffes, Hippos and Zebras with over 500 species of birds. The 'Mara' is also best known for the annual wildebeest migration, which unfolds from July to October. It is an amazing event of nature in which over a million plus wildebeest, Zebras, Elands, Grant's and Thomson's gazelles migrate north into Maasai Mara from neighbouring Serengeti National Park located in Tanzania, crossing the crocodile-infested Mara River on the way. This migration in Kenya is influenced by a number of factors including weather, pasture and

Fig. 2: Oloolaimutia gate of the National Park

Fig. 3: Maasai with semi-permanent enclosures

mating-birthing cycles, making it one of the seven natural wonders of the world.

3. ORIGIN OF MAASAI TRIBE

The Maasai (those who speak Maa language along with Swahili as their official language) are the most iconic nomadic tribe of East Africa known for their tall stature and brightly coloured traditional dress (body drapes) called 'Shukas'. Originally it was an ethnic group that migrated centuries ago from the semi-arid Nile valley north of Lake Turkana and now inhabits the region around Maasai Mara National Park as well as large portions of Great Rift Valley. Maasai people co-exist with wildlife and have retained most of their traditions, lifestyle and cultural practices. This warrior tribe, as they live largely untouched by modern-day civilization, is usually found on the fringe areas of the Mara reserve boundaries. They have developed a vernacular architectural style that reflects the socio-economic functioning of their society.

4. MAASAI CULTURE AND NOMADIC WAY OF LIFE

Maasai people are a community of migratory pastoralists who are deeply rooted in culture and traditions. It was around the 1960s that the Maasai people started wearing cloth named Shuka that replaced the sheepskin as body wraps. Maasai women make bead jewellery, which is used for ornamentation. We observed that ear piercing and stretched ear lobes with metal rings are a part of their beauty. Their life, economy and identity revolve around their herd. Cattle is considered an asset and medium of exchange.

In the Maasai society, one's gender defines their roles and responsibilities. Thus a strict order is maintained with respect to the division of labour, duties and power within them. As we were told, the women are responsible for the construction and maintenance of the house along with all the household activities like cooking, cleaning, fetching water and firewood, milking the cattle and taking care of the children. Whereas, men are responsible for taking care of the herd, maintaining and building cattle pens and other decision-making. Young Maasai boys are trained to be warriors and should be capable of guarding their livestock from predators.

Fig. 4: Maasai in their traditional attire performing the welcome song

Fig. 5: Process of igniting fire

The Maasai warriors are famous for their singing and 'Jumping' dance. It is believed that this jumping dance is a sign of strength. They perform this to impress the unmarried women and compete with each other by jumping the highest.

5.   MAASAI DIET

The diet consists of meat, blood and milk. They obtain cattle blood by piercing the veins of cows. Then mixed blood with milk is used as a nourishment drink or during the time of a few rituals. The person with whom we were interacting ensured us that the whole process of drawing blood is harmless to the cattle as their whole life revolves around the cattle. In the recent past Maasai people have started growing a few crops which they include in their diet. The skin of the animals is used for bedding. They also showed us the traditional way of igniting fire. It is by rubbing two sticks and then transferring the fire onto dry grass or dried dung.

6.   MAASAI VILLAGE

After a brief walk around the village, we felt that Maasai village is a form of vernacular architecture that perfectly represents the ways of functioning of a semi-nomadic pastoralist ethnic group wandering with seasons and building new villages for themselves wherever they go. The typical Maasai village is called 'Boma' and has a circular configuration with dwellings on the periphery of a central space. Several
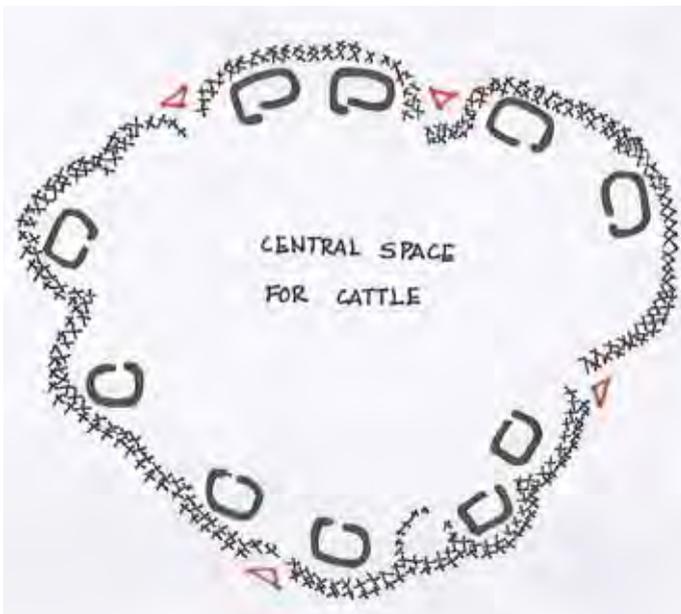
Fig. 6: Schematic Plan of Maasai Village with 3 types of Enkajis

Fig. 7: Central space for cattle surrounded by independent dwellings (Enkaji)
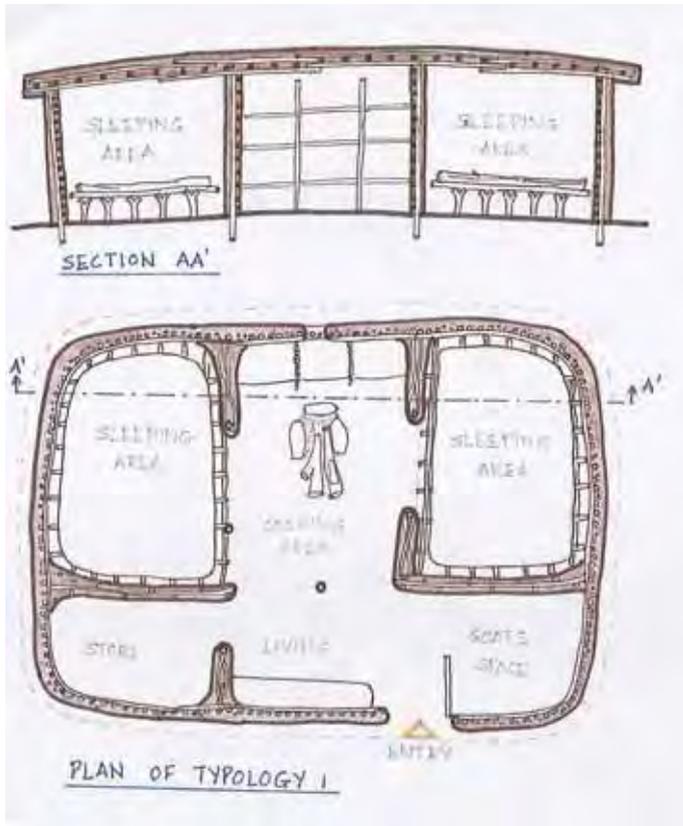
Fig. 8: Plan and section of Enkaji (Type 1)

Fig. 9: Cooking space

independent dwellings (Enkaji) are constructed around this central space by the women for their close family. The livestock is protected at the centre, thus demonstrating that it is most valuable to the Maasai society. The wealth of the owner is accounted for through the quantification of the cattle and children within their society. The Maasai move around shadowing their herds and living in the semi-permanent houses and enclosures. The space between two Enkajis is used for social gatherings. We went around the village and got a chance to interact with the Maasai people.

7.   ENKAJI

The Enkaji which we visited was quite simple (3 m x 5 m x 1.5 m) with wooden poles horizontally fastened by sticks that are woven together and in-between lined with sticks, branches and twigs that are covered with several layers of dung plaster. The interior space was divided by thin partitions forming cells thus catering to all the daily activities like cooking, eating, sleeping, storing and receiving guests. The main central room had a fireplace used for cooking food, lighting and heating the whole Enkaji at night. The adults slept on the bed made up of branches, which is an adjacent cell to the fireplace. The configuration of spaces within was based on the number of people using the space. The wall supports were intertwined with the roof supports thus making an integrated
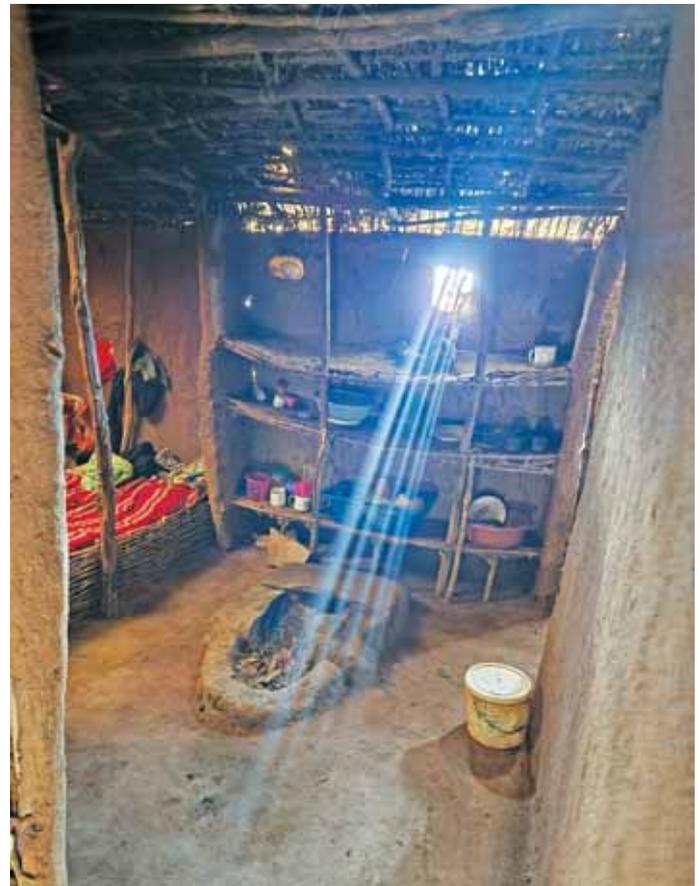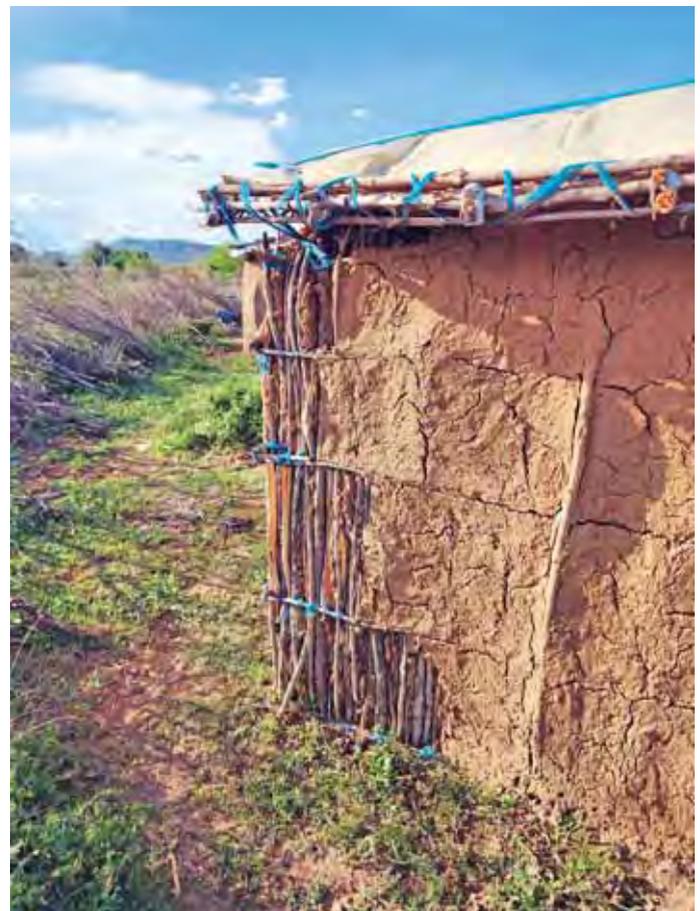
Fig. 10: Cow dung plaster on framework

structure layered with grass, cow dung and mud mix. Regular maintenance of the cow dung plaster is done to ensure protection in case of wear and tear. Thus these houses are impermanent in nature for the people on the move. There were 3 types of Enkajis within the village.

There were no windows in the house. Only a small opening was left on the wall of the cooking area, which did not have any framing or shutter. This had a purpose to vent out the smoke from the structure. Furniture within the household is very limited - to place things to store, to sleep and to sit, which is all inbuilt and integrated within the structure.

8. 21ST CENTURY SHIFT
We observed that due to rapid globalisation and increasing interaction with the people outside Maasai land, these indigenous communities have started adopting changes. The changes are manifested in terms of building materials and techniques as they are finding maintenance difficult. The use of GI sheets or tarpaulin for roofing to avoid the possibility of leakage was very evident in a few households. Thus emphasizing on external trends has led to a shift in building practices leading to a constant conflict between tradition and modernity.

9. CONCLUSION
Maasai tribe creates interesting housing with readily available materials and native construction technology. The created Maasai habitat is restricted which can be built quickly and will be abandoned just as quickly once it has served its purpose. This tribe keeps wandering with the seasons and pursues a semi-nomadic lifestyle by building new villages for themselves wherever they go. We could observe the connection between this tribe, their surroundings and the strong relationship they have with nature. It made us realise that we were in a whole different world of unique culture and incredible way of living. Our trip to Kenya thus was indeed a surreal experience which showed us a small slice of Maasai culture and lifestyle.

All Images Courtesy: Ar. Krishna Kumar. N and the author

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REVISITING SUSTAINABILITY: MYTHS AND MISGIVINGS

By Prof. Sham L. Kolhatkar

Prologue

With a capital-driven production of space, images that promote a certain lifestyle take over. In the conception of this ocular-centric built environment, we often negate the abuse that we are putting our environment through. Sustainability and its connotations often become mere tools that feed into this materialistic market of branding and advertising. Can we change these superficial meanings of sustainability to truly work towards providing for deeper and more holistic solutions that sensitively sustain the identity and values of any built environment?

Capital vis-a-vis Development

For any development, capital is the main resource and prime-mover, and the cost- benefit analysis, its mainstay. Demand and supply play a major role in economics. Development decisions are primarily based on financial evaluation so that the measures yielding the highest rate of return as well as lowest pay-back period set the top priority. Cost-benefit analysis examines consequences over time, permitting considerations of all relevant costs and benefits, in other words, the life cycle costs. There are various cost categories to be considered: these are initial capital investment costs, financing costs, facility operating and maintenance costs, facility repair and replacement costs, facility alteration and improvement costs, functional use costs, including salvage costs. We cannot disregard the necessity of break-even analysis- where all costs are known and

the discount rate is established for two alternatives-time can be used as the variable, to solve for the time when one alternative becomes more attractive than the other. We cannot disregard the importance of building economics.

The Blurring Boundaries Myth

Boundaries of various knowledge spheres are manmade. They exist on the merit of some established set of rules, prepositions and premises as well as logic. Every now and then, new knowledge gets added and the boundaries expand and extend. This is an inevitable fact of life. Sometimes two boundaries meet each other and new meanings are discovered, as in the case of physics and chemistry. Chemical properties of an element are evident in its physical structure. Even the laws of physics change at sub-atomic particle level and at the galactic level. But there will be unity reigning supreme, everywhere. And sometimes two separate branches of science, for example, biology and chemistry or biology and engineering, collide and cross their respective boundaries, creating a convergence zone, from which emerge new avenues in scientific research like bio-chemistry and bio-engineering, respectively.

Take a case of 'Fourth Dimension'. To many people the idea was absurd. Others tried to explain how such a dimension was possible, resorting to analogies. Four-dimensional geometry was developed as purely logical and theoretical structure. Intuition does not concede defeat so easily.
(Reichmann, 1972).

When Einstein formally recognized time as a fourth dimension in his concept of space-time, this was immediately accepted by popular vote. The fact that time had been regarded in mechanics as a kind of fourth dimension, although in a rather different way, before Einstein appropriated it, was immaterial. So it was Time all the time.

Architects speak about a fourth dimension, some with a little more intuition and insight, some with a little less, no matter. The fourth dimension is, I believe, the moment of boundless freedom brought about by an exceptionally happy consonance of the plastic means employed in the work of art. It is not the effect of the subject chosen by the Architect, but a triumph of proportioning in all things- the physical properties of the work as well as the fulfillment of the Architect's intention, controlled or uncontrolled, tangible or intangible, but existing in any case, and owing its being to intuition, that miraculous catalyst of knowledge, acquired, assimilated perhaps even forgotten.
(Le Corbusier, 1950).

Boundaries, as also the identities never wither away or blur. They remain as resilient and steadfast as ever. They may acquire renewed meanings and perceptions in the evolving context. And there are no superficial meanings of sustainability, either.

Sustainability Defined
Sustainability has no role in abusing the environment. In fact, it is a discipline that helps in putting a stop to environmental degradation and overuse and misuse of energy and resources. In the long run, sustainable design is not an option, but a necessity.

It is regenerative in the sense that it advocates the use of any by-product as a raw material for some other process. It teaches to respect ecological and human diversity. It promotes use of solar energy.
(McDonough, et al, 1998).

Earth, with over 8 billion people, is under stress. We are literally covering the Planet Earth with people. We are depleting our land and water resources, destroying biodiversity, polluting land, water and air, and triggering climate change. It took several hundred thousand years for the world population to reach its first billion (10^9) around the year 1800. But only 130 years were needed to add the second billion and less than 30 more for the third around 1960. In the mid-seventies, the fourth billion was reached and in the last quarter of this century two more billion have been added, totalling to well over 6 billion. This year the number has reached 8 billion.

According to Malthusian theory this number will reach 10.5 billion by the year 2050, and may stabilize at 11 billion sometime thereafter. At 8 billion people, natural resources have already been stressed. What would be the scenario after doubling this number? Every member of society has to be housed, fed, educated, gainfully employed, transported and provided with recreational and health facilities. And the ground reality is that each inhabitants is consuming more resources than did his/ her grandparents.

The issues related to sustainability are global. The world community is aware of the seriousness of the situation. The *Montreal Protocol*, 1987, the *Earth Summit* at Rio de Janeiro, 1992, the *Kyoto Protocol*, 1997 are examples of the efforts taken for mitigating these problems. Paraphrasing the *Brundtland Commission Report,* it defines sustainability as 'that development which allows the present generations to meet their needs without compromising the ability of future generations to meet their needs.'

The UN definition of sustainability has not been accepted universally and has undergone various interpretations. For many environmentalists, the idea of sustainability is an oxymoron (a pointedly foolish or contradictory statement), as development seems to entail environmental degradation. Ecological economist, Herman Daly, once asked, "What use is a saw mill without a forest?". From this perspective, the economy is a sub-system of human society, which is itself a sub-system of the biosphere and a gain in one sector is a loss for the other.

Many feel that it is no more than a feel-good buzz-word with little meaning or substance, while some others feel that it is an important but unfocussed concept like 'liberty' or 'justice'. It has also been described as a 'dialogue of values that defies consensual definition.' The definition of sustainability is very elusive because it is expecting to achieve many things. On one hand it needs to be factual and scientific, a clear statement of a specific 'destination'. But sustainability is also a call for an action, a task in progress or a 'journey', and therefore, a political process, setting out some definitions of common goals and values. Sustainability and its connotations can never become tools that feed the 'materialistic market of branding and advertisement'.

Contemporary Architecture
The design process today has undergone many changes. These are influenced by: present-day codes and standards, costs, passive and active approaches, energy efficiency measures, green building design

strategies, carbon neutral design, design strategies for sustainability and finally, regenerative design strategies. Even though 'capital-driven', present architecture is far more mature in the issues of energy, environment and sustainability, bringing new dimensions to the design process.

Environment, synonymous with chemistry, energy with efficiency and conservation and sustainability with proper resource management are now part of the architectural design process. Outside the architectural sphere though, the meaning of 'sustainability' has not yet been rationalized. The term sustainable is used freely- and often mistakenly- to describe a broad range of intents and performances.

This is unfortunate, as it tends to make sustainability a meaningless term—and sustainability is far too important a concern to be meaningless. Sustainability is essentially long-term survival. In architectural terms, sustainability involves the survival of an existing standard of living into future generations. (Grondzik, et al., 2010).

Indian Green Building Council's Initiative
The IGBC Green Township Rating system addresses some of the national priorities such as:

- *Efficient Land Use* – Mixed use: residential, commercial, industrial, educational, recreational and agricultural.

- *Habitat Preservation* – Restore and preserve natural environment by encouraging strategies that aid the interface between the built and the natural environment.

- *Effective Management* – By planning and governance, through regional planning authority, township planning schemes and bye-laws for approvals, environment authority, development authority and local authority.

- *Efficient Use of Resources* – The three 'R's'- reduce, reuse, and recycle

- *Enhanced quality of life for occupants* – Indoor and outdoor air quality, reduction in pollution of land, air and water as well as noise and light pollution

The rating system promotes creation of diverse, connected, affordable, safe and healthy communities that enhance social interaction and ownership by espousing the need for more open and green spaces. The 'New Urbanism' postulates an 'Inclusive City', a vibrant habitat to live, learn and work. This New Urbanism needs to be supported by a 'growth engine'.

Sustaining our environment is not incompatible with sustaining our markets. The process would be to encourage public-private partnerships in those areas that have been traditionally funded by taxation.

Sustainable Infra-Structure
The biggest infra-structure challenges facing the humanity are: power, water, transportation, waste management and open spaces and parks.

i) Power: Presently, power demand is outstripping the supply and increased power generation would be depleting the natural resources and degrading the environment. In the long term, energy costs would equal or exceed the environmental costs, which we will have to pay dearly. On the other hand, energy is vital for economic development which forms the foundation for social well-being and political stability. In this scenario, energy conservation becomes not only imperative but also an obligation dictated by the basic human instinct of self-preservation.

Demand-side management is an important prerogative of energy conservation. Energy demand can also be reduced by design. Solar passive strategies can reduce energy consumption by 30% and further 10% can be achieved by employing efficient fixtures and equipment and operation and maintenance schedules. On the supply side, the goal of a sustainable township should be to generate its entire energy requirement using renewable energy sources only. Technology would be the principal instrument that will facilitate more rational use of our resources.

ii) Water: It is a limited resource due to misuse and overuse and the path it travels is long and expensive.

Imagine how long it took to move through the stream, lake, river, reservoir, spillway, aqueduct, pump, mains, meter, pipe, valve, tube and faucet before it finally flows out to fill your glass. (Milne, 1976).

Now, do not think about its return trip. But the fact is that, costs of water and waste systems are many times more than the costs to transport the water from its source to your glass. The potable water has extravagant 'associated costs' also. The energy used for pumping is the highest item on the water system budgets. As also, the homeowners spend more money and energy to heat water than they do to acquire it. Now consider this: a very small proportion of our direct consumption of water is actually used for drinking or cooking (about 5%) and the rest is used to transport waste generated by us. We

also use tremendous amounts of water, indirectly. For example, every time an architect or engineer specifies a ton of structural steel for a building, they also specify the consumption of 37 tons of water (Vale and Vale, 1975).

Secondly, a sustainable development should conserve fresh, potable water by water conserving layouts and fixtures. Plumbing fixtures can be grouped together, for cost savings and convenience. Use service spaces, including toilets and mechanical rooms to organize your building.

iii) Transportation: As envisaged for sustainability, the transportation system should change from a car-centric to a transit-centric and a concentrated pedestrian one. A walk-to-work concept and walkable mixed-use communities should be the guideline. Alternative modes of transport such as pedestrian and bicycle tracks, with a personal rapid transit system (PRT) should be planned. Cars and automobiles should be banned where only mass transit systems would be available. Cycling and walking should be the only means of personal travel, complemented by a personalized rapid transport system. The maximum walking distance should not be more than 200 m from the nearest transport link and amenities. It would be logical to think that, when electronic communication is available with a matured technology, physical communication does not remain a necessity at all.

iv) Waste Management: Reducing waste is the first line of defense and the use of waste as a resource is the logical second one. Segregate at the source. Plastics, paper and metal can be sent for recycling. Bio-degradable waste can be processed by three mechanisms: composting, anaerobic digestion and bio-methanization. Methane, a high calorific value fuel can be used in power generation and the byproduct could be good manure for greening. Non-biodegradable wastes can also be used for landfill operation or incinerated. Appropriate and adequate sites should be provided in sustainable township master plan and developed fully, for processing and disposal of all types of waste generated within.

v) Open spaces and Parks: Trees modify air temperatures by evapo-transpiration, shading, reflection and storage of cold. On building group scales, if parks are located in built up areas, localized wind patterns are created; heated air rising above built areas and cooler air from planted areas replacing it. Although the cooling effect of planting is greatest near the vegetated areas, it can extend into built-up areas to a distance of 200 to 400 m. It

can also extend to surrounding areas due to wind. Therefore, a larger number of smaller open spaces, properly distributed, would provide cooling to more areas than a few large vegetated areas.

Culture, Traditions, Architecture, Etc.
Human desires and aspirations create Habits. A pattern of habits dictates social customs and social customs decree tradition. They all stay with us through the most overwhelming events, disturbing, constricting, and wantonly interfering with the free play of mind. Traditions are part of an era in which they are created, practiced and are perpetuated. They do exhibit regional character and are threaded in social fabric. Traditions are a function of human mind. Therefore, in a given frame of space-time they are likely to be influenced by the materialistic and the spiritual, the abstract and the real, the external and the internal.

The forces that act from within are those which act slowly, continuously and unconsciously; translating, assimilating and providing the crystallizing force which imparts a definitive character. As such, a tradition matures with the culture it is associated with. The external influence is drastic, sudden, harsh and often violent. It cuts through the almost time-less quality of tradition by forcing new innovations and rendering it into an object of antiquity. The social fabric itself is torn apart and a synthetic substitute planted upon it as a modern way of life.
(Le Corbusier, 1950).

Architecture as an art form has undergone many transformations during the ages. Starting from a cave as a dwelling unit, it has adopted many structural innovations, new building materials, utility systems to upgrade the quality of life. Histories, economics, geography all have played their part. It so happened that as each new system was introduced, it was adopted by developing it as a new order/ style with a vocabulary of its own, establishing an order and discipline to render it into a distinct entity, an identity.

From a humble post and beam construction, the semi-circular arch, introduction of concrete and structural steel up to the present day three-dimensional space frames and mega-structures, all have acquired a special status in their own time. Traditional architectural styles faced many problems in the contemporary world. We cannot simply order contemporary architecture to stop functioning. It would be like trying to close the floodgates when the water is already overflowing the town.

Epilogue

Humans are still an evolving entity. One day, the man as conscious observer, and experiencer, may go from this planet and some other forms of life may emerge. But the imprints of 'Homo-sapiens', in totality, will be there to shape the future culture and science. Every Past has shaped the Present; every Present will shape its own Future. It is a perpetual mobile. Numerical configuration of electrons may change, the velocity, amplitude and frequency of the vibrating knowledge waves matching, even the topography of the world will change.

Time may come when the earth or for that sake the whole solar system may not be here, as it is today. But every 'Next Moment' will be fastened and shaped by its 'Preceding Moment'. Not only this, but even the sequence of 'preceding moment' and the 'next moment' may change. Arrow of time and the very fibre of space are likely to undergo frivolous changes and one day the time itself may end. Multitudes of 'Zero Points' may emerge and from them, new creation will come into existence. (Adsule, 1992).

Emergence and merger, evolution and change are the essence of nature, and that, resilience is the key to survival.

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ARTICLE

Exploring Interrelationships in Architecture

By Ar. Prashant Pradhan

While all construction involves building, not every construction project qualifies as architecture. In the vast realm of the built environment, architecture represents only a fraction. The interconnections within architecture are intricate, encompassing elements such as form, context, clients, users, and the challenges confronted by architects. I have identified the key components as the client, the context, the designer/builder and the user.

The context plays a crucial role as it serves as the backdrop and foundation before any conception or construction takes place. The client commissions the project and the design is shaped by the collaborative efforts of the designer and builder, who bring the vision to life. Ultimately, the user experiences the finished structure. It is the harmonious synergy of these interconnected forces and factors that culminates in the creation of meaningful architecture.

Client - Purpose
I used to playfully declare "Architecture is the most fun you can have with someone else's money". However, my perspective shifted after establishing my practice in Sikkim, where dealing with challenging clients became one of the most formidable hurdles. I found myself constantly stressed and frustrated as some clients, with little regard for the submitted designs, whimsically altered them, making it challenging to secure our fees.

Fortunately, I received valuable advice from a seasoned architect friend: "Just get rid of bad clients". Following this counsel, I successfully transformed the mantra from "How to make architecture in spite of your client" to "How to make architecture because of your client".

Navigating the client-architect relationship is truly an art. Renzo Piano's wisdom, "You may need a great architect to make a great building, but you definitely need a great client," underscores the collaborative nature of the process. Designing with joy, rather than stress, is crucial for achieving successful outcomes. The client must possess a clear vision and an understanding of the larger picture, allowing the architect to bring it to fruition. This requires both parties to be deeply engaged in a meaningful and collaborative interrelationship.

Rangeen Restaurant at Ahmedabad
Pareshbhai Patel was one such client for a restaurant that I had designed for him in Ahmedabad. Through several meaningful exchanges, we were able to achieve a design where the process was as precious as the product. The clarity of his vision was to

Fig. 1: **Rangeen Restaurant |** Entry to the Restaurant
Source: Pratikruti09

manifest as a fine dining experience in the midst of old ruins similar to the ruins of Polo Forest in North Gujarat. I came into the project quite by accident when dining in a similar restaurant located on the floor below where the new project was to be built. Pareshbhai enthusiastically described his concept for the new venture, and I was taken by its ambition.

Since no floors were going to be designed above the restaurant, I proposed a large steel structure that would enclose the volume of the restaurant as one space. The temple ruins were built under the supervision of Prajeshbhai Patel, the man in charge of executing the design and also Pareshbhai's relative. The seating and circulation were designed to integrate with the ruins, ensuring attention to them. The project developed as a delicate balance between the requirements of the client and our ability to realize the vision.

One important takeaway from the experience with the client, Pareshbhai, was that the collective vision that was shared and executed was a result of a collaborative and harmonious interrelationship. It would not have come out in the way that it did if such an environment of mutual trust and respect did not exist.

Context - Premise
One question that had always bothered me ever since I was still studying architecture was to do with understanding the logic of form - "Where does form come from"? How do you decide what a building should look like? 'Form follows function' was redundant with the advent of steel and glass buildings that all began to look like one another regardless of the function. I was in the final year of architecture school at CEPT Ahmedabad and had decided to design a Museum of Sikkimese culture in Gangtok as my graduating project. The approach to the design was derived by considering the topography of the site as an artefact. The building was conceived as a glass enclosure showcasing the land upon which it was built. I did not realize it then, but that response to the land was perhaps a defining moment in how I would approach and consider the context in the years to follow.

What is the interrelation between architecture and the environment that it exists in? Form, the architectonic shape of a building, intertwines with the firming up of a plan or concept. After several years of establishing my practice in 2007, I have come to the understanding that the design of architectural form is directly dependent on the context upon which it is built. How we shape our buildings is neither random nor whimsical but rather a result of an appropriate response to the environment. 'Form follows Context' is a term I have developed as a means to describe the process by which we approach design in the hills. It emphasizes the importance of understanding the context allowing the form to evolve. Instead of shaping the topography to accommodate a predetermined design, architecture needs to adapt to the context.

Vivanta by Taj at Pakyong, Sikkim

Our approach to the design of the Hotel Vivanta by Taj at Pakyong draws inspiration from the historical prevalence of paddy field cultivation in the region. The verdant landscape, characterized by steep slopes and terraced fields, serves as the foundation for the conceptual framework.

One distinctive feature of the architecture is the integration of cascading courtyards, strategically designed to reference the topography. Rather than flattening the entire slope, the structure adapts to the contours, creating uninterrupted vistas between different levels. These courtyards open out into landscaped gardens, reminiscent of the terraced paddy fields. This intentional connection to the rural countryside reflects the visual connectivity among farmers and their families.

The design extends to furnishings, incorporating 'Dhaka' fabric traditionally used by the Nepali community and showcasing local architecture through timber frames with exposed woven bamboo. The 'wattle and daub' technique, locally called 'Ekra,' is retained without mud plaster, highlighting the craftsmanship tradition of Sikkim.

In summary, Vivanta Pakyong's design philosophy revolves around a holistic connection to nature

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Fig. 2: **Rangeen Restaurant |** View of the Restaurant with the ruin temples and stone screens with the *chandarvo* ritualistic fabric used during marriages
Source: Pratikruti09

Fig. 3: **Rangeen Restaurant |** The timber frames and glass walls
Source: Pratikruti09

and the local context, consciously avoiding clichéd references. The project successfully intertwines functionality, aesthetics, and sustainability, creating a harmonious retreat that respects and reflects the intrinsic beauty of Sikkim's landscape and cultural heritage.

Practice - Process

I've always harboured the desire to establish my own practice in my hometown, Gangtok. It was clear that before venturing into this, I needed to develop a comprehensive set of skills after my education at CEPT Ahmedabad. This led me to pursue a master's degree at the Berlage Institute in Amsterdam where I lived and worked, gaining insights into research and urban environments, and honing my skills. After that, I got the opportunity to live in New York, delving into high-end interiors. I then returned to Gangtok, envisioning my office as a studio fostering discussion and debate aiming to offer architects and interns freedom to develop their skills and encourage the sharing of ideas, enriching the design process.

The growth of our office is organic and gradual. Rather than being driven by specific aims or goals,

our evolution is shaped by the contributions of the people within our team – the individuals we work with, our clients and consultants. The emphasis is achieved through critical thinking and self-reflection, fostering a culture of continuous improvement. As of last year, the firm has included Hishay Doma Bhutia, an architect who has been working with us for over 10 years, to become a partner. Her contribution to the practice has been tremendous, and it has opened up opportunities for expansion to work on projects outside the region.

Puttabong Heritage Tea Bungalow, Darjeeling

We were commissioned to design and build one of the oldest tea bungalows in Darjeeling. The brief was not clearly defined, but the objective was to renovate this beautiful heritage and to provide the user with the experience of the 'Burra bungalow' of the tea garden in the grandeur of the Victorian era. It was the time spent learning interior design in New York that gave me the confidence to undertake such a prestigious task.

The design approach was to showcase the beauty of the 150-year-old bungalow while connecting the user

Fig. 4: **Vivanta by Taj |** Panoramic view of the hotel in the landscape
Source: Suryandang

to the breathtaking views of Mt. Khangchendzonga outside. The interior design elements were carefully selected from markets in New Delhi, Kolkata and Ahmedabad after several trips, searching for specific items to curate the experience. Apart from designing the experience, we also had to execute the project.

User - Presence

When Covid struck, all of us were confined to our homes. It changed the world and our perception of it. We could no longer take anything for granted where densely populated cities, once brimming with life and activity, had become desolate and lifeless during lockdown. In Sikkim, I was able to find some space to move away from the crowded centres and find refuge closer to natural habitat - thus leading me to believe that this pandemic has made us 'distanced from people but connected to nature.'

Isolated in Gangtok, clear skies every morning allowed me to take a walk next to a river close to where I live. Every day was a blessing and I felt that I must seize it and walk as far as the road and time would let me. Apart from enabling a healthier lifestyle, it brought me to the middle of the natural habitat. In doing that,

I began a journey introspecting into what is good design. Are the buildings that we design 'good'? It then led to the question - how does one consume architecture? As I spent so much time walking through nature and experiencing the natural habitat in all its glory, I came to an understanding that the walking-through and experiencing of a building must be the only way one can truly consume the spaces and forms that one creates. The importance of the interior experience of design must far outweigh the formal aspects. The user experience is centred on emotion and feeling, and good design elicits positive emotions, while bad design, as exemplified in various fails, detracts from the user experience. Understanding the user's needs and emotions is key to achieving good design.

These thoughts developed into personal research which found its way into an academic platform when COVID-19 provided me an opportunity to teach online. I was contacted by CEPT University, my alma mater in Ahmedabad, to propose a design studio for 4th and 5th year design students. I developed a course that focuses on understanding how context influences hospitality design, specifically in interior

Fig. 5: **Vivanta by Taj |** View of the pool and the hotel building in the background
Source: Suryandang

Fig. 6: **Vivanta by Taj |** The cascading courtyards in the landscape
Source: Suryandang

spaces. It aims to explore the spatial experiences of individuals inhabiting these spaces and analyze the role of context, encompassing both physical and non-physical attributes.

Residence for Ruchira and Tanmay Shah, Ahmedabad

One project beyond the hilly terrain of Sikkim and North Bengal is a project situated in Ahmedabad. Taking cue from the context of the city, the approach combined Corbusier's brutalist exposed concrete with curated traditional Gujarati elements. The design aimed to achieve a monolithic appearance, making the house seem less bulky.

The orientation focused on opening the house to the north, welcoming the east morning sun and creating shaded gardens while remaining closed to the south and west neighbors. The design philosophy prioritized spatial flow, interconnectedness, multiple gardens and a strong connection to nature through balconies and glass walls. The first floor, serving as the private area, maintained privacy while accessing elevated gardens surrounded by greenery.

Fig. 7: **Puttabong Tea Bungalow |** The lounge in the bungalow
Source: Avni Sanghvi

Fig. 8: **Puttabong Tea Bungalow |** One of the bedrooms of the bungalow
Source: Avni Sanghvi

Fig. 9: **Residence of Ruchira and Tanmay |** View of the living room
Source: Pratikruti09

Fig. 10: **Residence of Ruchira and Tanmay |** View of the living room from the lawn on the first floor
Source: Pratikruti09

The material palette embraced simplicity and timelessness, featuring monolithic and monochromatic elements like concrete, terrazzo, Alang wood, Italian marble and veneer. The interior explored the material culture of Gujarat, incorporating recycled Alang timber for sustainability.

Noteworthy aspects include the project's alignment with Critical Regionalism, drawing inspiration from Ahmedabad's architectural legacy, including the works of Corbusier, Louis Kahn and Doshi. The challenges addressed included balancing openness to nature with protection from the Sun's heat, emphasizing orientation and north-facing openings. Overall, the design aimed for formal order, rigor and simplicity, aligning with the architectural richness of Ahmedabad.

Conclusion

Attempting to understand the interrelationships between the forces and factors that contribute to the creation of meaningful architecture is perhaps what can summarize the direction our practice has taken. There are definitely other such factors that go into shaping the environment that we design, but the ones having the most impact on our endeavour have been shared here.

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FIRST EMERGENCY RESPONSE OUTPOST, BANGALORE

a centrally located facility to reduce response time

By Harsh Agarwal and Prof. Narender Singh Rathore

1.   Introduction

Cities are dynamic, ever-evolving entities. Their growth, social systems, and economic activities are intrinsically linked to the efficiency of their transportation networks. Mobility has been a defining feature of urban life, shaping its evolution. From the rudimentary stone wheel of 3500 BC to the sophisticated "wheel of autonomy" in the twenty-first century, modes of mobility have evolved substantially. However, the conventional transportation systems that have served us for centuries are now overburdened and stretched to their limits. The time has come for a pivotal shift in the paradigm of urban mobility. With the confluence of surging mobility demands and expanding urban populations, traditional transportation infrastructure cannot keep pace, leaving us with a pressing mobility crisis in both current scenarios and future projections.

Cities today grapple with escalating mobility challenges, especially during emergencies.

In times of crisis, the inadequacy of existing transportation systems becomes glaringly apparent, potentially resulting in disastrous consequences, as in the case of Bengaluru, which was marooned during recent flash floods on August 30, 2022. (Fig. 1) Incidentally, it is also designated as one of the slowest cities in the world, with frequent traffic jams and extremely high traffic volume.

80 years ago, even Henry Ford predicted air mobility as the future of urban transportation in his statement, *"Mark my words. A combination of aeroplanes and motorcars is coming. You may smile. But it will come." – Henry Ford (1940).*

Fig. 1: Bengaluru marooned on recent floods occurred in August 30, 2022
Source: Times of India

Fig. 2: Air mobility as a revolutionary solution for all existing urban mobility issues via land and water.
Source: authors

It is within this context that we introduce the concept of Emergency Response Air Vehicles (ERAVs) as a revolutionary solution poised to transform urban mobility, and more specifically, urban emergency response. (Fig. 2)

Fig. 3: Versatility of ERAVs as a solution in emergency situations in a city.
Source: author

2. The Emergency Response Air Vehicles (ERAVs) Revolution

ERAVs represent a ground-breaking innovation that has the potential to address a wide array of urban mobility challenges.

These versatile vehicles are capable of performing a multitude of tasks, from facilitating emergency commutes to supporting military operations, enabling personal mobility during natural calamities
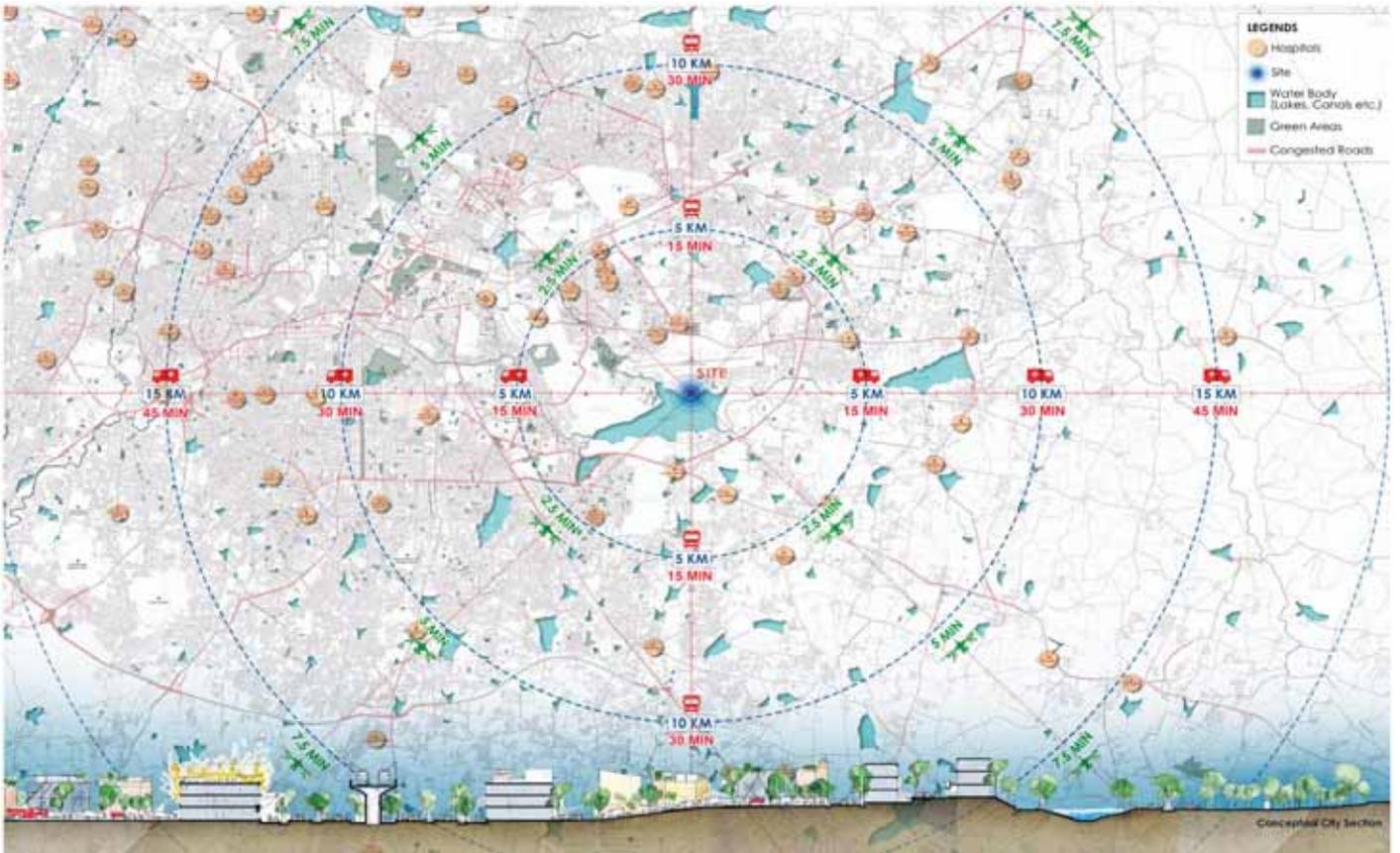
Fig. 4: Urban map of Bengaluru showing Hospitals located nearby and response time via road vs via air.
Source: authors

Fig. 5: Design proposal for an Emergency Response Outpost. (Top – Site Plan, Mid – Front View, Bottom – Axonometric View)
Source: authors
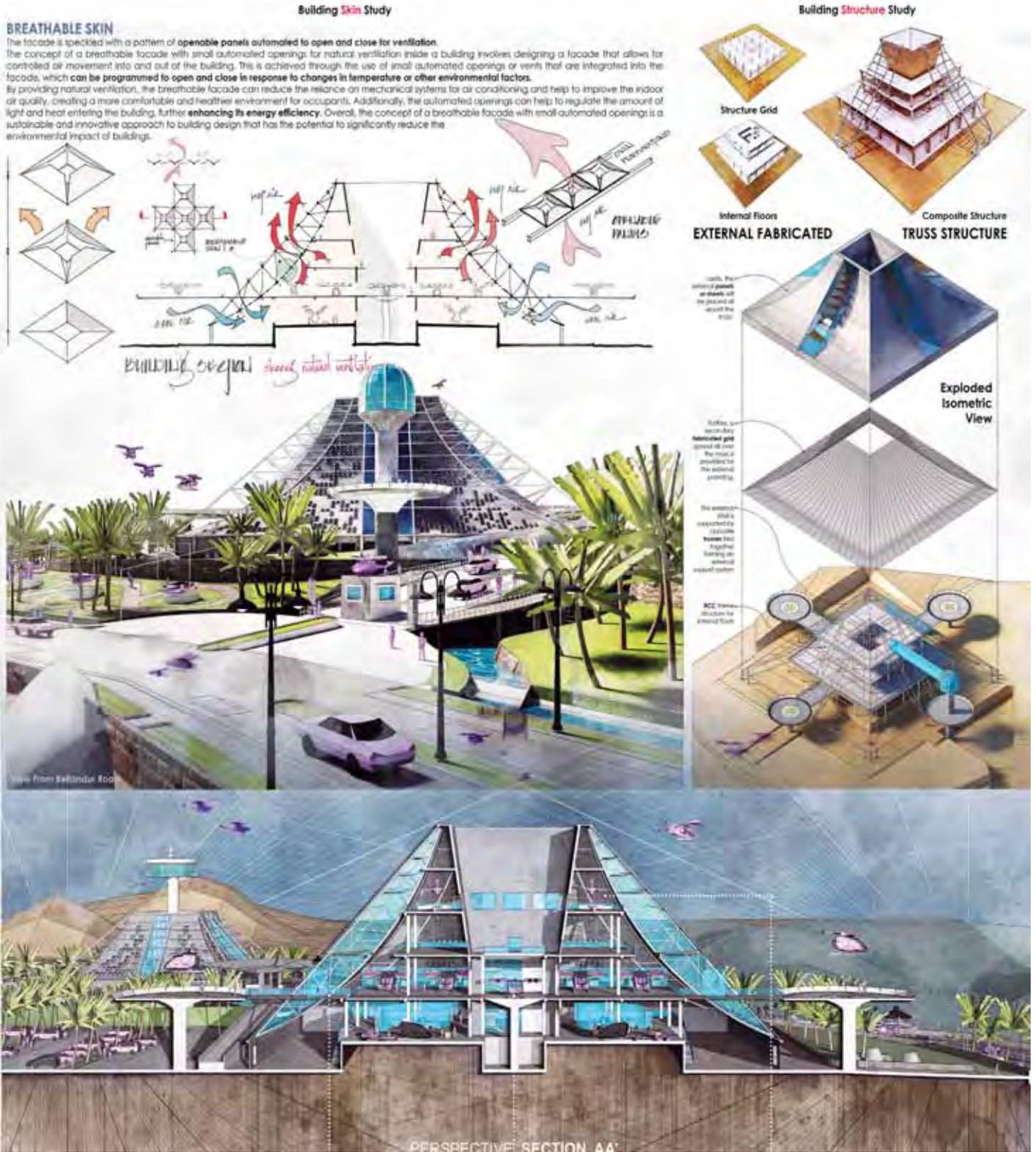
Fig. 6: Design Development and Details. (Structure and Section)
Source: authors

(such as floods and earthquakes), manmade calamities (such as fire), and even managing efficient package deliveries (Fig. 3).

In essence, ERAVs promise a holistic remedy to the gamut of contemporary mobility concerns. This thesis embarks on an exploratory journey to dissect the role of ERAVs in substantially reducing response times during emergencies. It delves into how ERAVs can revolutionise the design and functionality of future emergency response facilities.
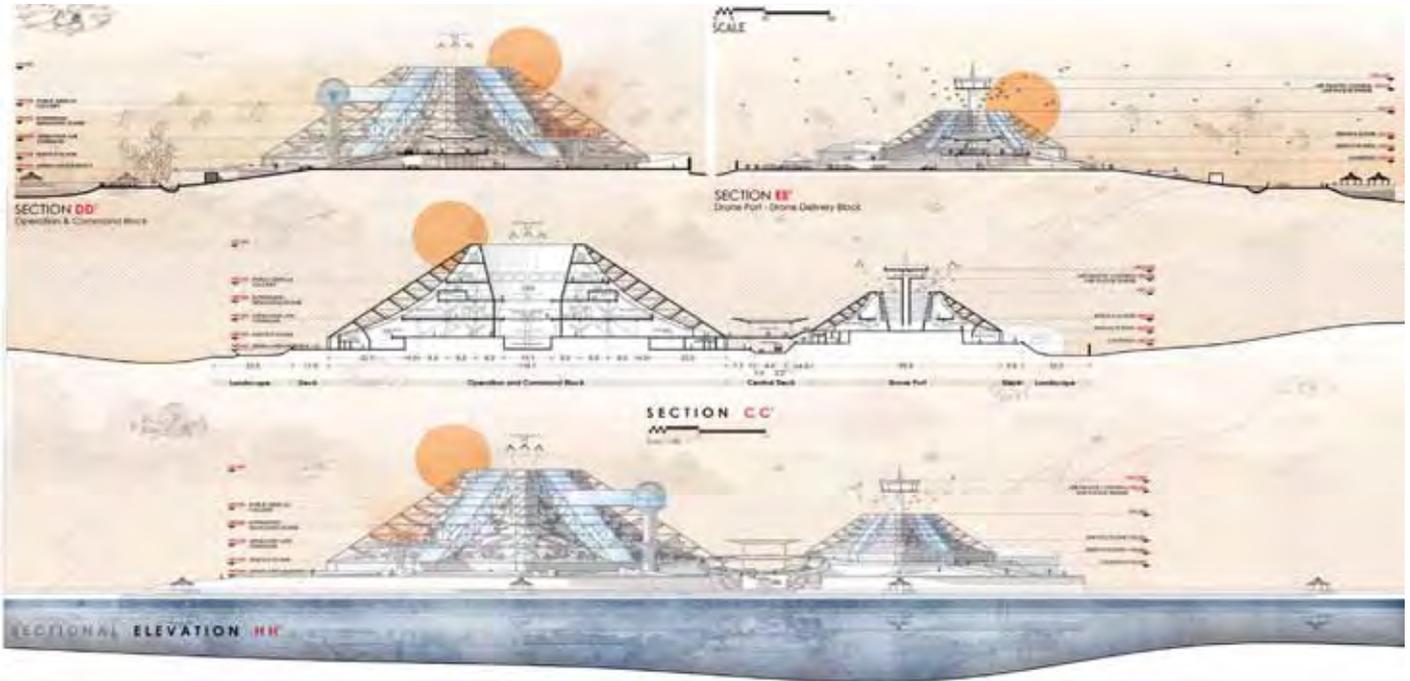
Fig. 7: Volumetric Scale. (Elevations and Sectional Drawings)
Source: authors

3. Siting the Emergency Response Outpost

At the core of this exploration is the vision of the "Emergency Response Outpost," a centrally located facility designed to dramatically reduce response times during various emergencies (Fig. 4). The site is centrally located on elevated land on the edge of Bellandur Lake near the HAL Airport, which is in the centre of the major densely populated area of Bengaluru (i.e., the Central Business District, White Field, and Electronic City). The Emergency Response Outpost employs cutting-edge technology to expedite response times and offers a dedicated architectural space to house the essential components—deployable air vehicles and drones—to enable rapid responses during emergencies.

4. Air Mobility: The Future of Urban

Throughout this thesis, we underline the significance of air mobility as a paramount solution to mitigate existing and impending urban mobility challenges. Air travel promises a host of advantages in terms of speed, efficiency, and adaptability. It has the potential to revolutionise urban architecture by inspiring architectural forms tailored to aerodynamics and functionality. Moreover, it reimagines the very essence of architecture by inviting us to explore and adapt to the unique demands and opportunities presented by the sky. (Fig. 5)

5. Innovative Design Strategies

The thesis culminates in a series of innovative design strategies aimed at seamlessly integrating ERAVs into existing architectural structures. (Fig. 6) These

Fig. 8: A transformative vision for the future.
Source: authors

Fig. 9: Physical Model Views
Source: authors

strategies offer a roadmap for transforming urban architecture into spaces that can accommodate the dynamics of air mobility. ERAVs, whether they are air vehicles or drones, necessitate a rethinking of architectural design to cater to their unique operational requirements. This section of the thesis explores adaptive architectural solutions that can transform our cities, making them not just visually spectacular from above but also more efficient and sustainable. (Fig. 7)

6.   A Vision of the Future

The thesis provides a compelling vision of the future, where air mobility emerges as a transformative solution to address mobility challenges. In this vision, cities adopt air travel as a mainstream mode of transportation, opening up new vistas of possibilities in the future. (Fig. 8) As transportation takes to the skies, ground space is liberated, offering more room for recreation and open areas that are lacking and already overburdened in Indian cities.

Surface transport infrastructure occupies nearly 15 percent of the land in an Indian city. Moreover, the introduction of autonomous electric vehicles promises substantial reductions in fuel consumption, enhancing urban sustainability and air quality. The study propounds a future where architecture and urban design are pivotal in adapting to the transformative potential of air mobility, much like they did in the past for road vehicles.

7.   Conclusion

In conclusion, this thesis asserts that air mobility is the solution to both current and future urban mobility challenges. (Fig. 9) It outlines a compelling vision of how air mobility can redefine urban architecture, urban spaces, and the very experience of the city itself. By providing a roadmap for accommodating ERAVs and embracing air mobility, this thesis serves as a significant contribution to the development of a more resilient, efficient, and responsive urban infrastructure. The transition to air-based transportation will not only revolutionise our cities but also offer new perspectives on architecture. Terraces will ascend as the fifth elevation, and architecture will not only be observed but also experienced from the skies above.

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STUDENT WORK

Kala Gram – Rajasthani Art and Craft Centre

By Ar. Bhabani Sankar Sahu & Prof. Tirthankar Sarkar

Abstract

India, a country with a plethora of cultures and diversities, is recognised throughout the world for its art and craft. The handmade artefacts of India have always held a unique place in the hearts of admirers. This thesis explores the role of the art and craft centre in promoting local cultural heritage and supporting sustainable livelihoods in rural Rajasthan. The research is carried out with both online searches and live case studies of various art and craft centres. The findings suggest that the centre plays a vital role in preserving traditional art forms and generating income for artisans who face challenges in reaching new markets and adapting to changing consumer demands. Designing an art and craft centre with the understanding of the needs of all users will not only facilitate the artisans but also bridge the gap between the artisans and consumers. The design solution of the art and craft centre enables the artisans to interact with the visitors in a productive way and enlighten the forgotten values among current generation.

1. Introduction

Art is a creative process (Subhedar, 2022) that bears some conceptual and aesthetic content. It is a combination of beauty, meaning and individuality. Craft is the activity that involves skills (Pollanen, 2013). It follows certain conventions and always bears a cultural aesthetic that is related to a community's livelihood. The terms 'art' and 'craft' are often used in a synonymous sense as over the time we have assumed them to be same. However, it is not the same, but has a relation between them. Craft requires repetition and adheres to some strict grammatical norms of a community's culture.

1.1 Concept of art and craft centre

The majority of today's crafts are passed down from previous generations and this continuity spans centuries. The concept of the craft village emerged out of an effort to maintain cultural traditions where practitioners of various arts and crafts will be able to meet and share their wares. The craft village aims to be a platform to promote understanding among the present generation by inculcating in them the long-lost values. In a craft village, visitors can learn about local culture and history while also honing their own craft making abilities. Visitors get a genuine taste of rural life with the village's authentic atmosphere and infrastructure. Each community has its own unique style of hut construction, with its own particular materials and methods. The art and crafts village is a mixed-use development of the residential and commercial place. It fulfils multiple functions from a single facility. The craft village will facilitate the craftsmen by introducing them to contemporary technologies, thereby raising their level of knowledge and skills. It will also provide facilities for trainings and seminars so that the general public can observe Indian crafts directly from the craftsperson. This idea can create a bridge between traditional Indian crafts and contemporary consumers.
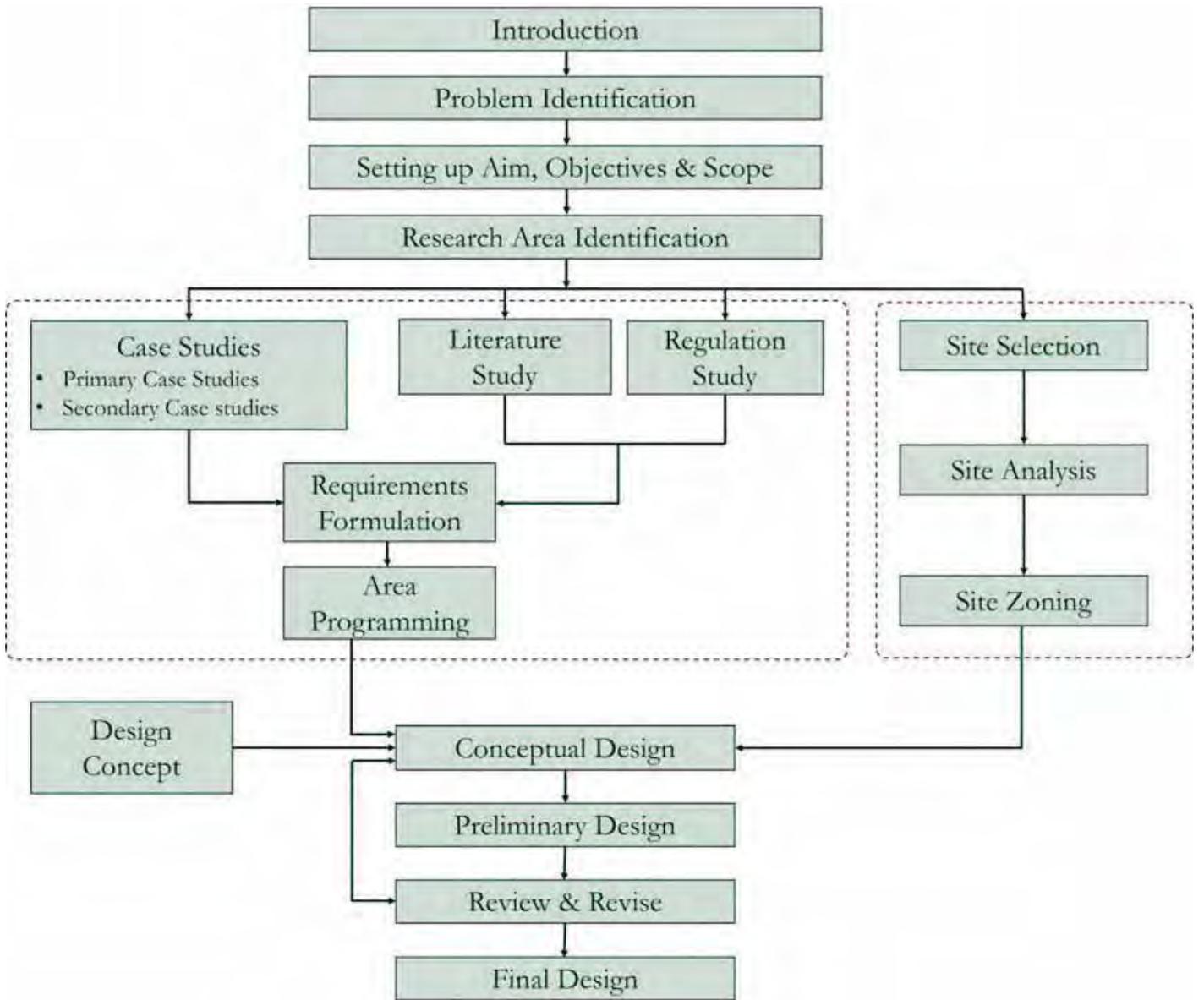
Figure 1: Flow chart showing methodology
Source: Authors

2. Aim of the thesis

To develop a platform, that promotes understanding and knowledge of the art and craft culture of a region among the people for strengthening the local art and craft sector of the same.

2.1 Objectives

- To bridge the gap between the artisans and consumer so that they have a centralised and organised structure for their growth.
- To design a centre, that enables the artisans to interact with the visitors in a productive way and enlighten the forgotten values in current generation.
- To incorporate local construction style so that the infrastructure will be true to their culture.

2.2 Scope of work

There are three major categories of spaces in this center.

- Producer's spaces
- Consumer's spaces
- Supporting spaces

Producer's space includes workspaces for production within the site, sales and promotion spaces like shops, gallery, storage spaces according to the scale of artifacts, training centre for sharing knowledge and living spaces for artisans and their family.

Consumer's space will include museum to showcase ancient techniques and tools, OAT and hall to enjoy various performing arts, organised tours to different
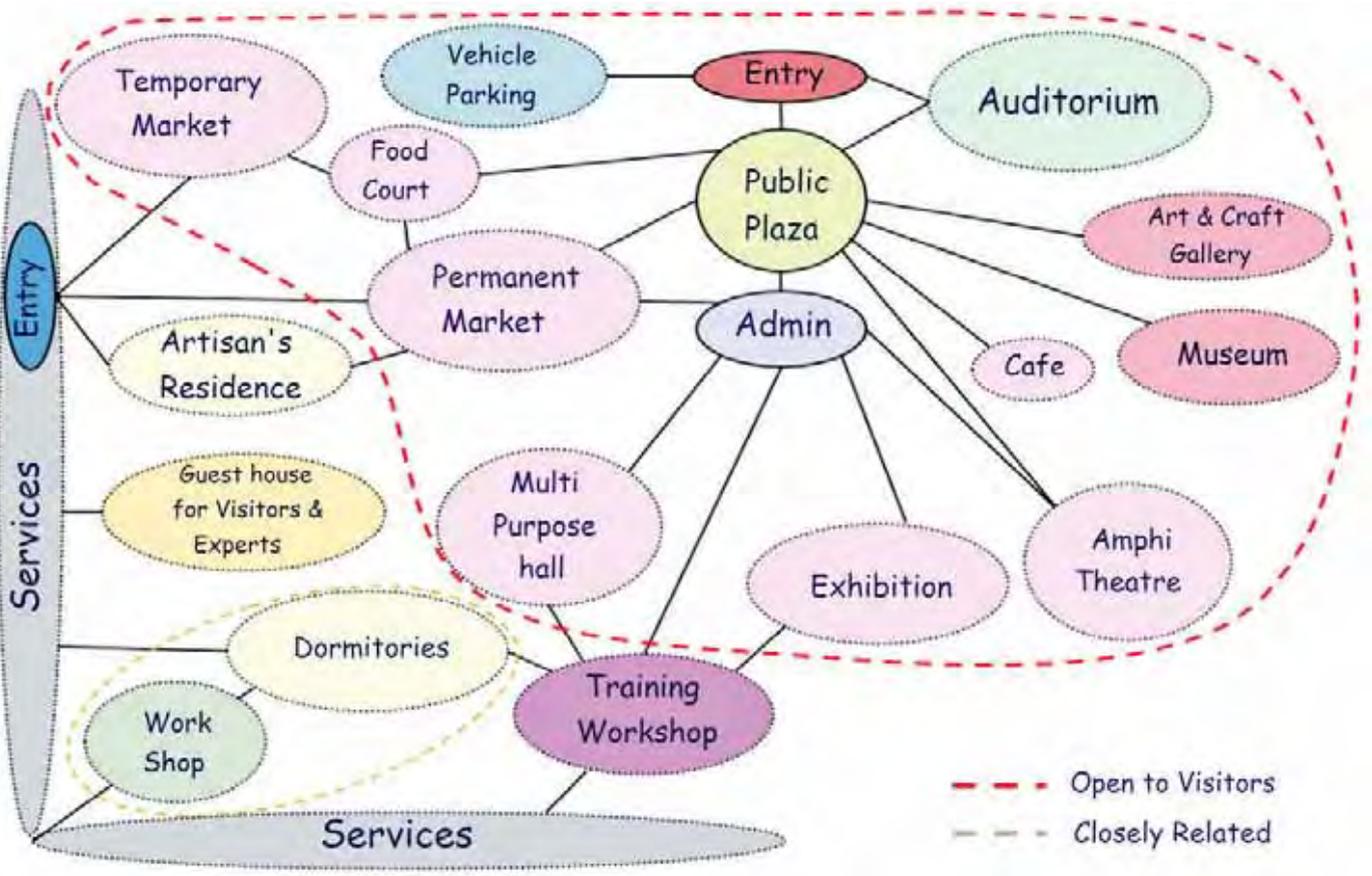
Figure 2: Relationship diagram of different spaces
Source: Authors

art and craft clusters, guest houses for tourist and visitors.

Supporting spaces are administration to manage the centre, related eateries and boutiques for refreshment, recreational facility such as break out spaces and other ancillary facilities like parking, toilets etc.

The process of research and design synthesis is shown with the help of a flow chart in Fig.1.

3. Literature precedence and findings

3.1 Wayfinding in Design
Giving visual and perceptual clues through strategic organisation of places is what wayfinding is all about and it is how the entire built environment interacts with its users. The strategies include colour-coding, signage and other environmental cues.

- Designing a public building is highly challenging. Considering way finding measures in design process will help in effective management of visitors inside the complex.
- Necessary activities should be planned within the visual reach of the visitors.

- Zoning of spaces should be done in such a way that it minimises the confusion at path intersections.
- Paths and nodes should be planned to have pause points, to disperse the visitors towards desired destination.
- Green areas are very helpful to connect the built spaces and the pathways. It also gives the visitors a pause point to relax and act as a gathering place.
- For an effective wayfinding system 30-40% of total usable space should be provided for circulation.

3.2 Vernacular architecture and artisans in West Zone Cultural Centre (WZCC)- region

- The economy of the family is reflected in the typology of houses.
- The cultural attributes add value to vernacular architecture, which makes it into a unique built heritage resource.
- The built form is more influenced by climatic purpose but is strengthened by religious compulsion and beliefs.

Figure 3: Map showing location and details of site
Source: Author, prepared from Google earth

Figure 4: Pictographic representation of typical Rajasthan village
Source: Adapted from Kabir Sahni

- Utilisation of indigenous craftsmanship, increases the structure's visual presentation and showcases advancements in the state of art and crafts.
- Household routines and gender roles lead to family-interaction spaces like courtyards and interior as well as worship spaces, Baithak and Chaupal.

3.3 Regulatory implications

According to Rajasthan Building Regulations, 2020 for residential, mercantile and assembly buildings built-up area ratio of plots larger than 2500 sqm is 2.00. Maximum ground coverage allowed is 40%, Minimum front, side and rear setback is 9m. The permissible height is dependent upon road width, for a 9m road, the building height permitted is 15m, for a 12m road building height is 18m and for roads more than 18m the building height permitted is 9m + 1.5 times of road width.

3.4 Primary case study

3.4.1 Case Study 1 - Sanskriti Kendra

Brief information

Location: Ayanagar, Delhi

Completion: 1993

Architect: Upal Ghosh

Site Area: 8.7 Acre

Built-up: 5300 sq.m

Objectives of the case study

- To understand the emphasis laid on promoting the arts, crafts, and cultural heritage through a centre.
- To understand the spaces and connectivity in an art and craft complex.

Inferences

- The building itself serves as an excellent model of a location that is ideally suited to cultural activities.
- The urban layout works well with the surrounding landscape.
- The flow the open sky area through semi-covered courts and then into a roofed area makes a pleasant experience for the tourists.
- The building appears deserted because the artisans are rarely seen at work. It could be argued that the only thing missing from this setting is humans.

3.4.2 Case Study 2 - Shilpgram

Brief information

Location: Udaipur, Rajasthan

Completion: 1989

Vicinity: 9 km west of Udaipur, near Havala village

Site Area: 70 Acre

Used area: 160000 sq.m

Built-up: 16000 sq.m

Objectives of the case study

- To understand the spaces configuration of artisan residences.
- To understand the spaces required for different types of Art and Crafts practice.

Inferences

- All different type of hutments can be seen in an order, as their retail area is adjacent to the pedestrian path mimicking a street market culture in a village.
- Each individual hut at once an organic entity and at the same time nourishing and husbanding a series of craft shops.

Figure 5: Site plan of Kala Gram
Source: Authors

- Provision of various informal performing as well as activity spaces invites visitor to become a part of the ongoing performance.

- Spaces used by the artisans were developed by these artisan community, so the arrangement of various micro spaces are supposed to be best suitable.

3.5   Secondary case study

3.5.1   Case study 1 - Shilparamam

Brief information

Location: Madhapur, Hyderabad.

Completion: 1992

Architect: Cote consultants

Client: Shilparamam arts, crafts and cultural society

Site Area: 229435.5 sqm

Objectives of the case study

- To understand various activities and spaces provided in an Art and Craft centre.

- To understand the spatial arrangement of various structures.

Inferences

- Degree of enclosure is less, that makes the built spaces closely related to nature.

- Local culture is shown through built spaces.

- The rocks and materials available on site used in a utilitarian way to form the rock gardens.

- Since most of the buildings on the plot are only ground storey structures, the site circulation relies on horizontal traffic patterns.

3.6   Findings

- A place on the outskirt of an urban area provides the desired scenario for an art and craft centre and provides a pleasant authentic backdrop.

- An art and craft centre provides various opportunity to artisans to interact and also promotes the craft culture.

- The built forms are earthy and depicts the ethnic form of architecture.

- The built-up area of the site purposefully kept low i.e., 15-30% to accommodate various open and semi open spaces to provide greater opportunity.

Front elevation of Orientation center

Typ. section of wall

Sitting & Ramp integration

Section Through Orientation center

Front elevation of museum

View of Orientation center from front plaza

Strategy for avoiding Hot air

View of workshop area
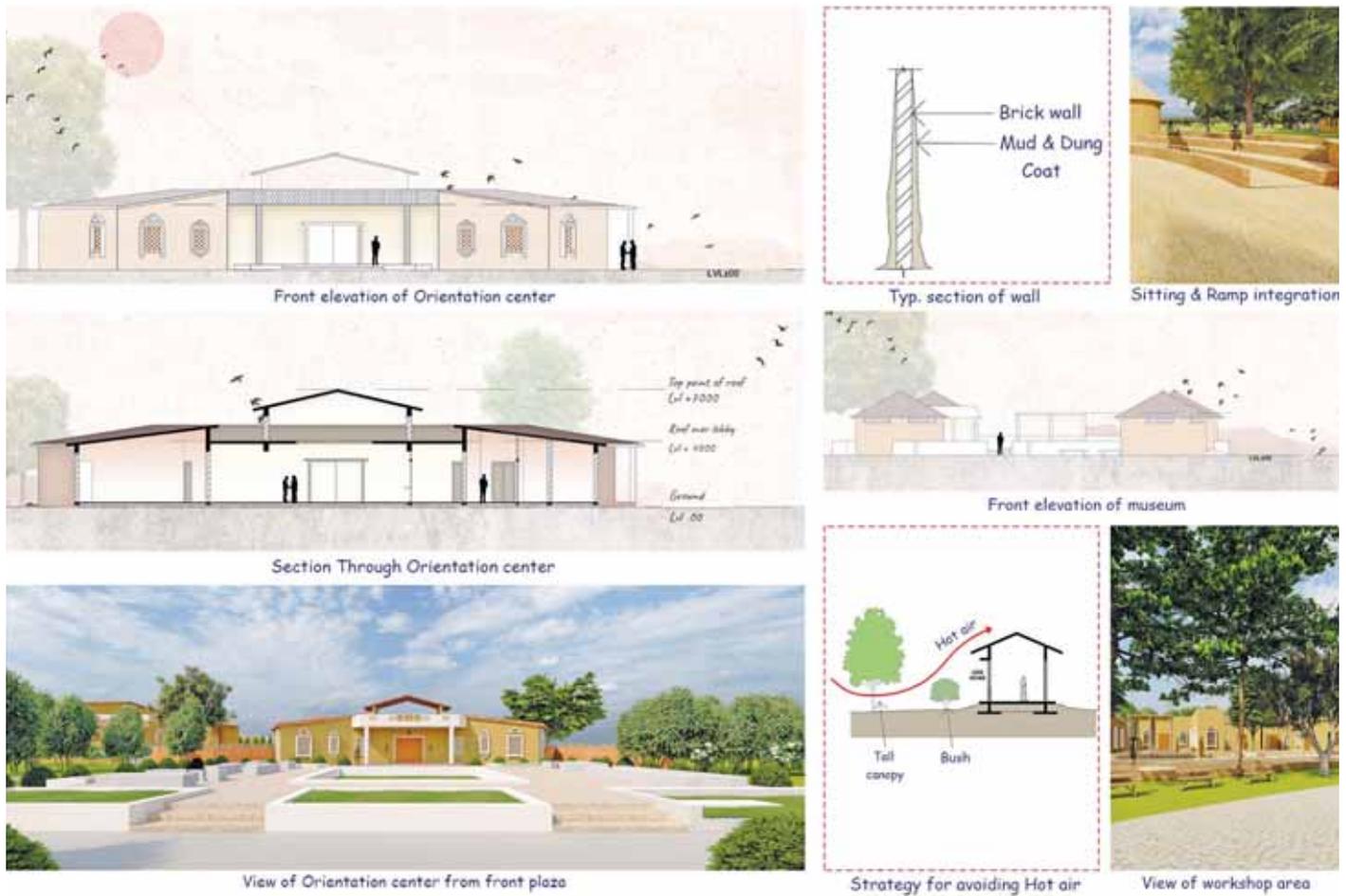
Figure 6: Elevation and strategies to avoid harsh climate
Source: Authors

- Public areas are planned for easy accessibility beyond operating hours also.
- Topography of site provides opportunity for recreational area.
- Residential areas have separate access.
- The circulation pattern of the site kept simple unless affected by topography of the site.
- Apart from staff, artisans, visitors and students of various art and craft institutes are the major stakeholders of such project.

The above studies and observations helped in forming the design brief for the Art and craft centre.

4. Design Brief

Indian civilization has been the origin of some of the most incredible art forms known to the world. The global reputation of India's handcraft industries is high, different communities and areas in India each have their own unique culture, language, art and crafts. These types of creative expression are important to people's sense of self and to a country's cultural history.

The state of Rajasthan is known for its opulent palaces, forts, and fortresses, but it is also home to a thriving arts and crafts community. Rajasthani handicrafts are recognised nationally and internationally for their unique quality. These crafts include Blue Pottery, Leather Craft, Wooden Craft, Metal Craft, Textile Craft, Terracotta etc.

Most artisans in Rajasthan now have to rely on income from other sources, making handicrafts and other small-scale enterprises something they do on the side rather than full-time. Some of the State's traditional art and crafts are in danger of being lost forever.

The preservation of handicrafts, promotion of traditional and regional arts, and the development of related economic activities are all highly needed. To revive the art and craft sector, the Rajasthan government implemented various schemes for upliftment of the artisans in recent years, benefiting more than 6,00,000 artisans in the state. Since then, the art and craft sector of the state have been constantly on the rise and to give it a further boost, the government has plans to build a model '**Art &**

Craft centre' as proposed in "Rajasthan Handicraft Policy 2022" launched by the state government.

This hub would serve the State's artisans and ensure their vital role in the State's economic and social progress. The goal is to provide a venue for the creation, display, and demonstration of visual art, performing art, and various forms of craftwork in order to strengthen the economic foundation and social structure of rural Rajasthan's artisans. In doing so, they will be introduced to innovative methods of production and design. Besides The centre will provide visitors a glimpse of cultural and craft heritage of ethnic Rajasthan and a space for interaction with foreign and Rajasthani artisans. The inter-relationship between various spaces required for the centre is shown in Fig. 2.

5. Discussion

5.1 Introduction to the site
Rajasthan is well known all over the world for its hand-printed textiles, furniture, leatherwork, jewelry, painting, pottery and metal craft. West Zone Cultural Centre, which is more active in Rajasthan has been declared best performer among all seven Zonal centres of India. There is a considerable number of craft clusters present in Rajasthan as per the craft map of India.

The World Crafts Council (WCC) declared Jaipur as the World Craft City in 2016 due to the flourishing trade of handwork, paintings, wall paintings and various other types of handicrafts in the city. Rajasthan government's proposal of Model Handicraft centre in Jaipur in the view of its potential. So, Jaipur becomes the ideal location for the site. Exact location and related information of the site are given in Fig. 3.

Chandlai region in Jaipur district receives around 50 - 150 mm rainfall maximum only during the months of Jun – Sep. Throughout the year, the temperature remains on the higher side. In the months of April, May, June and July, the temperature reaches as high as 43°C. It becomes lower in the months from November till February wherein the observed daily temperature ranges between 15°C to 18°C. Relative humidity ranges between 60-80% in the months July through October and rest of the year it remains on the lower side.

Figure 7: Water harvesting plan for firefighting & movement of various stake holders inside the site in normal condition & in case of emergency
Source: Authors

Figure 8: Landscape plan of Kala Gram
Source: Authors

5.2 Design strategies

Rajasthan, is known for its lively culture and long history. There are many different kinds of communities in the state, and art and craft have been done there for a long time. Traditional handicrafts and fabrics have been passed down from generation to generation in rural Rajasthan in particular. The central idea of this project was to organise the site so that it provides a village like experience and aesthetics, as shown in Fig. 4, taking into account the context and the types of activities.

- Village characteristics such as crooked alleys, courtyard homes, pond, well, etc. are incorporated in the design.
- As it is mostly composite climate so the open spaces are shaded with trees.
- Having a pool of water will naturally cool and freshen the air around.
- To better visualise the concept, cluster sizes are maintained to an intimate scale. Site is divided up into zones based on their relative importance.

- Clusters have spatial arrangement of open, semi open and covered space.

5.3 Design proposal

Considering the site conditions, the main entry is drawn from the Jaipur-Kota Road. Another entry taken from the adjacent road connecting to Chandlai lake. Various functions are grouped and distributed within the site as shown in Fig. 5.

To give the rustic appearance of the typical village area a theme of earthen shade is followed for the elevation of various buildings inside the site. These buildings are inspired from houses of artists throughout the state. A glimpse of the appearance of buildings can be seen in Fig. 6. The site lies in a composite climatic region, to avoid the hot air and heat gain various strategies like Mud-dung plaster, and vegetation are used as shown in Fig. 6.

There is a varied range of stakeholders in this art and craft centre it is important to segregate the movement of different stakeholders to facilitate easy functioning of the centre. Circulation plan of

Figure 9: Other landscape features inside Kala Gram
Source: Authors

various stakeholders - movement of its users and fire tender vehicle in case of emergency is shown in Fig. 7. The site is in a water scarcity zone. Therefore, to minimise the ground water utilisation for Fire and other emergency services a well-planned water harvesting system also shown in this figure.

In the site of Kala Gram the following four types of landscaped spaces are considered (refer Fig. 8). There are also other landscape features used at chowks, open areas, pathways inside the artist village shown in Fig. 9, that enhances the experience of visitors.

1. Community open space
2. Blue – green landscape
3. Transitional landscape
4. Multi use landscape

All the trees incorporated in landscaping provide benefits like providing aesthetic appeal to the entire setting, providing shade, wind breakers, air and water filter, provide home to wild refugees such as birds and squirrels, cooling effect, stress reduction by providing a peaceful view. The shrubs that are used in Kala Gram act as natural fragrance and mood uplifter. Apart from these other common native species are used for hedges and lawns. Illustration of all the plants used in the design are given in Fig. 10.

6. Conclusion

The layout was organised considering the site's two primary natural features: the central depressed part acting as water body as per topography and the existing roads. With activity zoning, the fundamental movement pattern and entry points are defined in order to formulate the location of buildings and other structures in relation to their functions. The buildings are carved out and divided into different areas. All progressive development on the site is

Figure 10: Plants used in Kala Gram for landscape design
Source: Authors

done in an organic manner. Squares, rectangles and circles with sloping roofs are used as the building blocks for the planning, which allows for the creation of interstitial masses and voids.

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Form Follows Roots: Architecture for India 1985-2021

Author: Ar. Surinder Bahga
Reviewer: Ar. Asees Prab
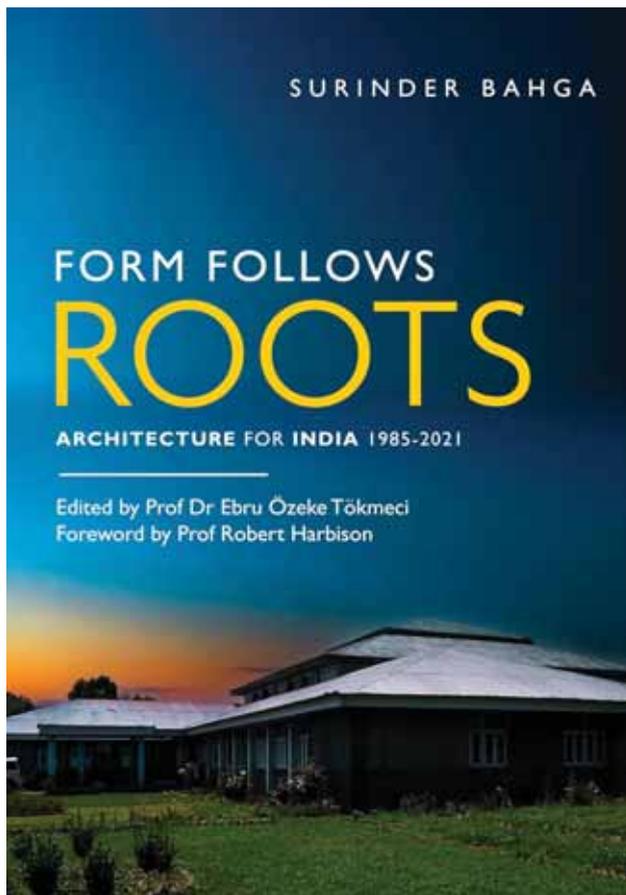
Form Follows Roots: book cover

ISBN	:	978-81-19510-11-5
Genre	:	Documentation
Language	:	English
No of pages	:	340
Publisher	:	White Falcon Publishing
Year of publication	:	2024

Form Follows Roots is an insight into the contemporary architecture of India from 1985 to 2021, including the author's own architectural works. Through the projects and the author's professional journey, current architectural issues have been addressed in the book by quoting practical examples. Architect Abhay Purohit, President of the Council of Architecture, India has stated that the book will be a valuable addition to the literature on Architecture. Hence, the Council of Architecture has approved its circulation among Indian universities.

India's post-independence modern architecture has been documented elaborately in various books until 1985. However, the previous literature focuses on works for the elite class, thus overlooking the architecture for the middle-income and economically weaker sections of Indian society. The book was visualised to address this significant gap in Indian architectural literature. Architect Vilas Avachat, President of the Indian Institute of Architects states that, "*this comprehensive work delves deep into the rich architectural heritage of our nation, capturing*

the essence of marvelous projects from smaller towns, cities and villages". The publication is an effective endeavor to document the architecture of these humble settlements, which require a different kind of awareness altogether, as skilled manpower and machinery are not easily available at such places. It also discusses the misled concept and negative impact of over-use of glass in Indian buildings and advocates designing buildings to suit local climate and culture. The book features essays by Dr. Harveen Bhandari, Dr. Elif Berna Unal, Dr. Minakshi Jain and Dr. IP Singh, Dr. Mustafa Var, Ar. Yashinder Bahga, Ar. Parveen Chopra, Ar. Sarbjit Bahga, Dr. Sanyam Bahga, Dr. Pankaj Chhabra, Dr. Manita Saxena and Ar. Megha Shroti.

Chandigarh being a union territory and a planning and architectural marvel, has witnessed several political conflicts over the years. The book discloses certain political issues that could have had a detrimental impact on the architecture of the city, as well as the architectural fraternity of Chandigarh. It documents the role of the author as an activist in civic conflicts like the Tata Towers behind Chandigarh Capitol Complex and merger of Chandigarh College of Architecture with Punjab Engineering College. The author's work as a member of the Board of Directors of Chandigarh Housing Board and Councilor in Municipal Corporation has also been touched upon.

Turkey-based Architectural Historian, Prof. Dr. Ebru Özeke Tökmeci, who is also the editor of the book, anticipates that the book shall be an impactful contribution to the architectural community and fill an important gap in the literature on contemporary Indian architecture. Dr. Mustafa Var, professor at Yildiz Technical University in Istanbul, Türkiye says that the book summarises the influential architectural and landscape projects in India implemented between 1985 and 2021. He anticipates that the book will be a useful resource for architectural students and experts in India as well as around the world. According to him this unique resource, compiling various architectural and landscape projects implemented in India, will be utilised for many more years from now on and will potentially form a reference for the future publications that will cover the architectural projects designed after 2021.

This book is an outcome of the hardwork that Ar. Bahga had put in for 23 years. It was released on 12th of January, 2024 at the Chandigarh Press Club, by reputed architect SD Sharma in the presence of many eminent architects, authors and other prominent personalities of Chandigarh. It has been published by White Falcon Publishing while the foreword has been written by well-known author Prof. Robert Harbison from London. *Form Follows Roots* is suggested for every architectural student, faculty, practitioner, researcher and enthusiast, who has a sincere interest in the evolution of architecture in India in the last few decades.
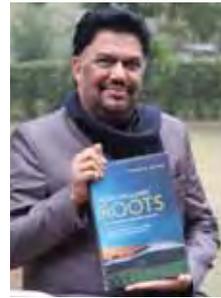
Author
Ar. Surinder Bahga (F 06401) is heading the architectural organisation 'Saakaar Foundation' in Chandigarh. His project, the Baptist Church at Chandigarh was selected by the Ministry of Non-Conventional Energy Sources and TERI as one of the best 41 energy-efficient buildings in India. He received the *Sir M. Visveswaraya Award* in 1995 by HUDCO for energy-efficient housing design. He also received the *Michael Ventris Award* from the Architectural Association, London. He has held prominent positions in the Indian Institute of Architects, Chandigarh-Punjab Chapter and the Chandigarh Municipal Corporation. Currently, he is associated with the Home Minister's Advisory Committee on Union Territories, the Chandigarh Housing Board and the Chandigarh Chapter of Fire and Safety Association of India. *Email*: sbahga17@gmail.com
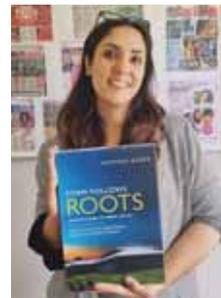
Reviewer
Ar. Asees Prab (A 21817) is an architect and urban designer by qualification. A researcher, writer, academician and practitioner, Asees has several research papers and design patents to her name. She has taught at various reputed Indian architecture schools. Currently, she is pursuing her PhD at RMIT University in Melbourne, Australia. *Email*: aseesprab10@gmail.com

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ARTICLE

Christopher Benninger, Master Architect and Planner

is bestowed with an Honorary Doctorate in Architecture from CEPT University

By Ar. Daraius Choksi

On January 1, 2024, CEPT University announced that it would be bestowing Prof. Christopher Charles Benninger with a Doctor of Philosophy (Honoris Causa) in Architecture. This is the first time that CEPT University has bestowed honorary doctorates. Its objective was to honour individuals who have made profound, far-reaching, and inspiring contributions to fields relating to the built environment through their work in education, research, and practice and who exemplify the highest personal and professional standards in the fraternity.

On January 20, 2024, alongside Prof. Benninger, Alain Bertaud was bestowed with a Doctor of Philosophy (Honoris Causa) in Urban Planning. Congratulating both, Dr. Bimal Patel, President of CEPT University, said that "awarding the honourary degree of doctorate of philosophy is the highest honour that CEPT University can bestow upon any person. I am very pleased that the two people recognised with this honour are highly distinguished professionals who are exemplary 'reflective practitioners' in their fields."

With a Master's in Architecture from Harvard and a Masters in City Planning from MIT, Prof. Christopher Benninger has been associated with CEPT University since 1968. Apart from being an internationally known distinguished architect, planner, and teacher, Benninger is also an institution builder. He resigned his tenured professorship from the Graduate School of Design at Harvard University to co-found the School of Planning in 1971, and thereafter, he founded the Centre for Development Studies and Activities in Pune in 1976.

A recipient of the coveted Great Master Architect Award in India and several other lifetime achievement awards, he has won the Indian Institute of Architects' National Award six times, more than any other architect in India. Having an expansive practice in both architecture and planning, he is perhaps the only person today with a multi-faceted career spanning over five decades. His architectural practice has produced hundreds of projects located in cities in India as well as Bhutan, China and Africa. He has designed campuses and buildings for over twenty universities, including IIT Hyderabad, IIM Calcutta, Azim Premji University, Bengaluru, CEPT University, Ahmedabad, and Bajaj Institute of Technology, that focus on sustainability and contextuality as witnessed through the modern lens. He has designed award-winning manufacturing plants, a clinic for mentally challenged children, and Suzlon One Earth Global Corporate Headquarters, which became globally known for its net-zero energy consumption and was platinum LEED certified, as well as a Griha five-star green-certified building. He has worked closely with the Buddhist community to design the Mahavihara in Pune and Nagaloka in Nagpur. He also designed the Supreme Court of Bhutan and several ministry buildings, along with the Thimphu National Capital region, paving the path for the Himalayan kingdom to move from monarchy to democracy. He is presently designing the National Parliament complex in
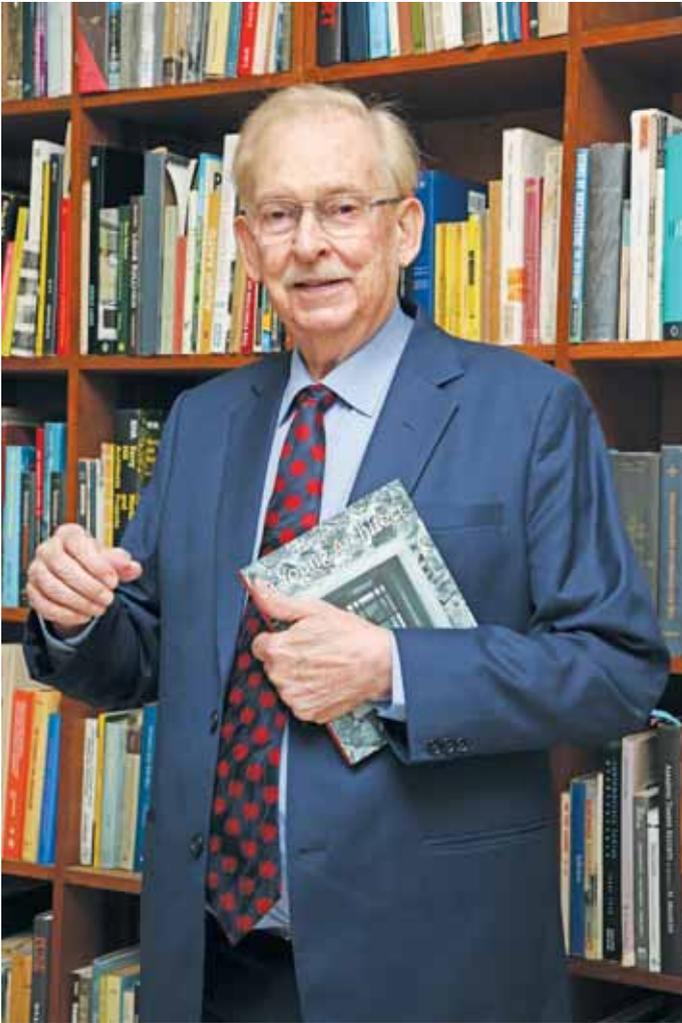
Prof. Christopher Charles Benninger
Source: Author

Burundi, Central Africa, and a Brain Research Centre in Shanghai, besides landmark institutions like the Tata Institute of Fundamental Research and metro stations for Puneri Metro.

His work has had an immense impact on affordable housing, leading to the construction of India's first EWS housing scheme by HUDCO at Jamnagar [1972]; 15,000 Site and Services housing units in Chennai funded by the World Bank [1973–8]; and the EWS Yousufguda township for 2,000 families [1976–80].

He wrote the theme paper for the 7th Session of the UNCHS and the ADB's Board Paper on Urban Infrastructure Investments [1986], bringing ADB funds to cities for the first time. He has acted as a planner in India, Bhutan, Nepal, Sri Lanka, Malaysia, Indonesia, Kenya, and Zambia for the World Bank, UNCHS, UNFAO, UNICEF and ADB.

Apart from being an active practitioner, Prof. Benninger is also an academician and has written extensively in the field of architecture. His writings include academic papers, newspapers, columns, articles and forwards in multiple books. He is the author of two of the most beloved books on architecture. 'Letters to a Young Architect' is a sensitive memoir of Benninger's life in India and his personal concerns about architectural theory and contemporary urban issues. It is a collection of autobiographical narratives and ideas, reflecting his vibrant journey. The book is the only Indian book on architecture to be translated into three languages, namely Gujarati, Bangla and Chinese. 'Architecture for Modern India' documents all the projects his firm, CCBA Designs, has produced over the past five decades. Curated by the Managing Director of the firm, Mr. Ramprasad Akkisetti, its rich pictographic nature allows for easy readability and illustrates the design process of each project through a notable number of personal sketches and drawings by the master architect himself. The book was published by Skira in Italy and Rizzoli in the USA in 2016. He authored the chapter on built heritage in 'Connecting Through Culture' published for the Ministry of External Affairs and many chapters in books both in India and outside, along with over a hundred articles. Today, at the age of 81, Christopher Benninger's contributions to the field have been immense. He has been a tireless advocate for the betterment of the built environment and has forged an ever-lasting legacy through his work for modern architecture.

Daraius Choksi (A 20004) is an architect and the Studio Director of Prof. Christopher Benninger-led CCBA Designs in Pune. Graduated from the University of Mumbai in 1998, he has been associated with CCBA since 1999 and has worked on a complete gamut of projects in the studio, including residential, hospitality, commercial, corporate and educational campuses, ranging across scales. As the Studio Director, he leads the team from concept development to construction, post-occupation and handing over. He was also chosen for the 2015 iGEN Design Forum's "Top 50 Next-Generation Architects" by Architect and Interiors Magazine. His decades of mentoring have created a pool of fine architects in the country.
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NEWSLETTER JANUARY

IIA JAMMU & KASHMIR CHAPTER

IIAPL GOLF SEASON 2

Unveiling Architectural Excellence and Sporting Camaraderie

The sprawling city of Jammu recently played host to the prestigious IIAPL Golf Season 2, a remarkable event that unfolded on 6-7 January 2024. Organised by the IIA J&K Chapter, this golfing extravaganza brought together architects from all corners of India, creating an atmosphere of friendly competition and fostering a sense of community among the participants.

The picturesque city of Jammu witnessed architects converging from various parts of the country on 6 January 2024. The festivities kicked off with a warm welcome at the Hotel KC Residency, setting the tone for a series of memorable events. The evening continued with an exquisite Welcome Dinner and Musical Night, providing an opportunity for architects to unwind and connect.

The main highlight of the IIAPL Golf Season 2 took place on 7 January 2024, at the BSF Golf Course in Jammu. Starting at 8:30 am, the opening ceremony, graced by the Chief Guest DIG PSO BSF Shri Sukhdev Raj and Special Secretary to Tourism Shri Amarjit Singh, began with a symbolic gunshot, officially marking the commencement of a day filled with golfing prowess and camaraderie. Laughter echoed across the course as participants engaged in friendly competition, with refreshments and lunch adding to the overall enjoyment of the day.

Ar. Vilas Avachat President IIA, felicitating key sponsor of the evening (6th January 2024) Everest Industries

The arrival of architect golfers at KC Residency

Arrival of Chief Guest PSO Sh. Sukhdev Raj

Chief guest PSO sir, SH. Sukhdev Raj inaugurating the event

Chief Guest Fourball

Architect golfer fourball

Ladies fourball

The Chief guest addressing the award function

Ar. Vilas Avachat President IIA felicitating Chief Guest

Chief Guest felicitating IIA Office bearers

The event garnered notable attention and appreciation from the Chief Guest, who expressed gratitude to the IIA Office Bearers, including the distinguished presence of IIA President Ar. Vilas Avachat, Vice President Ar. Jitendra Mehta, Junior Vice President Ar. Tushar Sogani, Hon. Treasurer Ar. B. Sudhir, and Jt. Hon. Secretary Ar. Akshaya Beuria. Special recognition was extended to the IIA Jammu Kashmir Chapter for their exceptional commitment to excellence in organizing this successful tournament.

The winners and runner up in various categories included

Ar. Anupam Mittal, Ar. Yogesh Tyagi, Ar. Binesh

Kumar, Ar. Rahul Tyagi, Ar. Ramachandran, Ar. Manish Gupta.
Nearest to pin winners :
- Front 9 – Ar. Yogesh Tyagi
- Back 9 – Ar. Ramachandran
Longest Drive - Ar. Yogesh Tyagi
Straight Drive - Ar. Binesh Sukumar
Winner in Ladies Putting: Himani Kulshrestha

As the sun set, the celebration continued with a Cultural Extravaganza at KC Regale Park, offering an evening of artistic performances that highlighted the rich cultural diversity of J&K UT and the talent within the architectural community. The event also served

Winner in 10 – 18 handicap category – Ar. Anupam Mittal

Runner up in 10 – 18 handicap category – Ar. Yogesh Tyagi

Winner in 19 – 26 handicap category – Ar. Binesh Suumar

Runner up in 19 – 26 handicap category – Ar. Rahul Tyagi

Winner in 27 & above handicap category – Ar. Ramachandran

Runner up in 19 – 26 handicap category – Ar. Manish Gupta

Winner in Ladies category – Ar. Swetha Karlmax

Runner up in Ladies category – Ar. Babika Goel

Ar. Jitendra Mehta, Chairman Sports, Culture & Event Affairs Committee addressing during award function.

Kerala Chapter won the overall championship trophy for chapter with maximum participation

Kashmiri dance performance by artists from Kashmir

Ar. Vilas Avachat President IIA addressing the gathering during the valedictory function

Group photograph of National Office bearers and IIA Jammu & Kashmir Chapter Team

Token of appreciation from IIA Navi Mumbai Centre team

as a platform for the IIA national body to convey their appreciation to the participants, with special commendation for the dedicated efforts of the IIA Jammu & Kashmir Chapter.

In conclusion, the IIAPL Golf Season 2 transcended the realm of a mere golfing event. It became a platform for architects to converge, build connections, and establish a strong community. This grand success is destined to be etched in the memories of participants for years to come. As we delve into the stunning captures of this memorable journey, each frame narrates a tale of laughter, competition, and the vibrant spirit that defined our golfing adventure. Prepare to be captivated by the beauty and joy frozen in time, as these pictures tell a story that goes beyond a thousand words.

IIA CHHATTISGARH CHAPTER

Raipur Heritage Walk: Unveiling the Cultural Tapestry of Purani Basti

A noteworthy collaborative effort was established between IIA Raipur Centre and Amity University on 5 January 2024 to orchestrate a Heritage Walk which sought to cultivate a more profound appreciation for architectural heritage and history. Participating were the first-year students pursuing B.Arch and B.ID degrees. The selected region for investigation was Raipur's historically significant and culturally vibrant Purani Basti. The Heritage Walk's itinerary was designed to include significant landmarks, allowing participants to navigate through the diverse cultural fabric of the city. The expedition commenced at Lily Chowk, which functioned as the assembly and initial location. Students and IIA members equally undertook the exploration of the central region of Purani Basti, which revealed the concealed treasures residing beneath the modern exterior of the city. The itinerary comprised the following:

a) Lily Chowk: The vibrant commencement area where the heritage walk's ambience was most palpable.

b) The Nagari Das Mandir: is a temple that was built in the unique Nagar style, providing a tangible representation of the architectural magnificence that characterised that era.

c) Hanuman Baoli: An architecturally remarkable step well situated within the temple premises that also possessed historical significance due to the rediscovery and subsequent reinstallation of three Hanuman idols in different regions of Raipur. The inclusion of a fourth idol, which remained submerged, introduced an element of enigma.

d) Jaitu Sao Math is a complex location that is comprised of a hostel for young students studying Sanskrit, a school, and a temple devoted to Lord Rama. The location served as a seamless integration of spirituality and learning.

e) Tuti Hatri: Although the specifics of the visit to Tuti Hatri are still unknown, it is probable that the stroll played a role in revealing the historical strata of this obscure location.

Ar. Raj Prajapati, Ar. Saurabh Rahatgaonkar, Ar. Subodh Bagrecha, Ar. Manas Haldar, Ar. Ravi Jaggi, Ar. Swapnil Jaggi, Ar. Naveen Sharma, Ar. Atul Deshpande, Ar. Shalabh Sharma, Ar. Amit Purvar, Ar. Akhilesh Gupta, Ar. Subham Ghatge and additional unidentified members were among the IIA members who participated actively in the Heritage Walk. Their contributions were instrumental in the

Celebrating our cultural tapestry: Participants and dignitaries of the Raipur Heritage Walk

event's triumph. Amity University contributed to the academic and organisation of the Heritage Walk, serving as a valuable collaborator in this undertaking. Dr. Parampreet Kaur and Ar. Nishtha Joshi, both affiliated with Amity University, were instrumental in organising and supervising the occasion.

A distinguished guest, Shree Jeetendra Agrawal (Dau ji) Parshad, attended the event, lending an air of local leadership to the cultural investigation. The Raipur Heritage Walk successfully integrated elements of community engagement, architecture and history, resulting in a profoundly enlightening experience. Through the concerted endeavours of IIA Raipur Centre and Amity University, the intricate strata of Purani Basti were effectively revealed, affording attendees the opportunity to establish a profound resonance with the city's cultural legacy and actively contribute to its conservation and commemoration.

IIA JHARKHAND CHAPTER

Second General Body Meeting

IIA Jharkhand Chapter held its second General Body Meeting on 13 January at Hotel Le Lac Sarovar Portico, Ranchi. The minutes of the last GBM held on 15 July 2023 were shared and updates were conveyed to the members present by Jt. Secretary, Ar. Anupam Deb. Following this, Jt. Secretary Ar. Anurag Kumar shared the summary of events held after the first GBM as follows:

• Architects' Meet

An Architects' Meet was held at Jamshedpur on 4 August 2023.

• Pratibimb

A panel discussion on architectural reflections on society, Pratibimb, was held on 8 September 2023 at Ranchi to discuss and collaborate with various stakeholders on city and urban infrastructure development, followed by the launch of the Architects' Handbook. The panelists were Shri Sanjay Seth (Hon. MP, Lok Sabha), Shri Amit Kumar,

IAS (Director, State Urban Development Agency and CEO, Ranchi Smart City Corporation Limited), Shri Ameet Kumar, IAS (Administrator, Ranchi Municipal Corporation and VC, Ranchi Regional Development Authority), Ar. Gajanand Ram (Vice President, COA), Shri Kumud K. Jha (Chairman, CREDAI Jharkhand), Shri Kishore Mantri (President, Federation of Jharkhand Chamber of Commerce & Industries), Ar. Mayukh Virnave (Senior architect, IIA Jharkhand Chapter) and Dr. Manjari Chakraborty (Dean Infrastructure, BIT Mesra), moderated by Ar. Sandeep K Jha (National Council member, IIA).

- *Visit to Sanskriti Museum, Hazaribagh*

IIA member architects made a visit to Sanskriti Museum, Hazaribagh, curated by Padmashri Bulu Imam, on World Architecture Day on 2 October 2023 to learn and discuss the vernacular building traditions of the state.

- *Lokarpan*

A two-day event, *Lokarpan*, was held in collaboration with the Dept. of Architecture, Birla Institute of Technology, Mesra, hosting speakers Ar. Alok Shetty, (Principal, Bhumiputra Architecture, Bangalore) and Ar. Shaon Sikta Sengupta (Director, Edifice consultants, Delhi), followed by a hands-on brick workshop for students by Ar. Sandeep K Jha (Principal, Axis Architects, Ranchi) on 14 and 15 October 2023.

- *Building Byelaws Workshop*

A workshop on building byelaws was held at Ranchi on 23 December 2023 in the presence of Ar. Gajanand Ram (VP, COA) along with Shri Arun Kumar and Shri Swapnil Mayuresh (Town planners of RMC & RRDA respectively).

- *New Year Picnic*

A new year's family picnic of member architects was held at the Dari Village Resort on 7 January 2023.

Following a summary of the above events, Ar. Anurag shared updates on the letters sent to the various government departments within this same period, primarily concerning centralized registration, requirement of experience in accreditation, building plan sanction in rural areas, discrepancies in the Master Plan, reconsideration of minimum financial turnover, fee structures and payment schedules. Treasurer Ar. Amit J Barla then shared the financial report. The various sub-committees presented their past updates and agendas for coming months in an open-house discussion:

a) Professional practice subcommittee (Ar. Arun Kumar & Ar. Avishek Singh)
b) Architects Social Responsibility subcommittee (Ar. Nalin Goel & Ar. Gopikant Mahato)
c) Students and Young Architects Mentorship subcommittee (Ar. Anusha Sinha & Ar. Anupam Deb)

d) IIA Membership subcommittee (Ar. Anup Kumar)
e) Public relations/ Media subcommittee (Ar. Sourav Toppo)
f) Events subcommittee (Ar. Harsh Raj)

The 'Best Thesis' award was presented to Deeptam Das of BIT Mesra.

A survey form was also shared for the discussion over minimum benchmark fees for member architects.

The GBM concluded with the National Anthem, followed by high tea and a vote of thanks by Chapter Chairman, Ar. Atul Saraf.

Lastly, an informal discussion was held on a group medical insurance and term insurance policy and a benevolent fund for the Chapter members.

IIA TAMIL NADU CHAPTER
IIA MADURAI CENTRE

4th Business Meet with Ar. Siddarth G. Sankar

Ar. Siddarth G. Sankar, Partner, M/s. *Sankar & Associates*, Coimbatore, presented the emerging trends in architecture and the practice of their firm. This event was held on 25 November 2023 at the Hotel JC Residency, Madurai. *TOTO* were the Invitee participants. Around 60 Architects from Madurai attended the event.

4th Business Meet with Ar. Siddarth G. Sankar

5th Business Meet with Ar. Jinu Louishidha Kitchley

Ar. Jinu Louishidha Kitchley, Professor & Head, Dept. Of Architecture, Thiagarajar College of Engineering, presented *Urban Narratives of a Growing Heritage City* in perspective of the Temple town Madurai. This event was held on 5 January 2024 at the Hotel JC Residency, Madurai. *Astral Pipes* were the Invitee Participants. Around 65 Architects from Madurai attended the event.

4ᵗʰ Council Meeting held at Amritsar, Punjab on 16ᵗʰ December, 2023 for the Term 2023-2025.

Sr. No.	Assoicate to Fellow	Place	Membership No.
1	Ar. Alka Prakash Kemkar	Madhya Pradesh	F08271
2	Ar. Bibhudatta Sahoo	Odisha	F16432
3	Ar. Swopnadutta Mohanty	Odisha	F16376
4	Ar. Laxmi Narayan Singh	Odisha	F19054
5	Ar. Vikas Arunkumar Achalkar	Maharashtra	F11411
6	Ar. Rajiv Kumar Gupta	Haryana	F07407
7	Ar. Amol Anilkumar Hatkar	Maharashtra	F15559

Sr. No.	Direct Fellow	Place	Membership No
1	Ar. Sushma Jeyakumar	Tamil Nadu	F27944
2	Ar. Shraddha Manjrekar	Maharashtra	F27945
3	Ar. Rajesh Luthra	Northern	F27946
4	Ar. Suman J	Karnataka	F27947

Sr. No.	Associate	Place	Membership No
1	Ar. Farhat Zia	Uttar Pradesh	A28063
2	Ar. Deepali Kukreja	Madhya Pradesh	A27948
3	Ar. Meenal Mangesh Surawar	Maharashtra	A27949
4	Ar. Sumit Kisandas Jhawar	Maharashtra	A27950
5	Ar. Anoop Keshao Punekar	Maharashtra	A27951
6	Ar. Kshitij Nashine	Maharashtra	A27952
7	Ar. Sunil S Rathi	Maharashtra	A27953
8	Ar. Sadanand Madhavrao Kokate	Maharashtra	A27954
9	Ar. Trupti R Chauhan	Maharashtra	A27955
10	Ar. Sakshi Rajesh Kapoor	Maharashtra	A27956
11	Ar. Tanavi Dattatray Chati	Maharashtra	A27957
12	Ar. Atul Wasudeo Lalsare	Maharashtra	A27958
13	Ar. Induja R Raj	Kerala	A27959
14	Ar. Rajsagar P M	Kerala	A27960
15	Ar. Thomas Joseph	Kerala	A27961
16	Ar. Preet Paul	Punjab	A27962
17	Ar. Neelam Thakur	Punjab	A27963
18	Ar. Ekta Tomar	Punjab	A27964
19	Ar. Suyash Gohil	Madhya Pradesh	A27965
20	Ar. Mayooree Saxena	Madhya Pradesh	A27966
21	Ar. Anuj Jaiswal	Madhya Pradesh	A27967
22	Ar. Aditya Wallabh	Madhya Pradesh	A27968
23	Ar. Shashank Goyal	Madhya Pradesh	A27969

24	Ar. Meenal Nagdavne	Madhya Pradesh	A27970
25	Ar. Aayushi Ram Kishor Tamrakar	Madhya Pradesh	A27971
26	Ar. Gourav Upadhyay	Madhya Pradesh	A27972
27	Ar. Sparsh Jaiswal	Madhya Pradesh	A27973
28	Ar. Sarthak Mandlik	Madhya Pradesh	A27974
29	Ar. Harshita Charupa	Madhya Pradesh	A27975
30	Ar. Parivesh Sahu	Madhya Pradesh	A27976
31	Ar. Prateek Jain	Madhya Pradesh	A27977
32	Ar. Devesh Tripathi	Uttar Pradesh	A27978
33	Ar. Saurabh Grover	Punjab	A27979
34	Ar. Vidushi Sharma	Chandigarh	A27980
35	Ar. Chetna Godiyal	Northern	A27981
36	Ar. Kartik Khokhar	Rajasthan	A27982
37	Ar. MD Sarwar Azad	West Bengal	A27983
38	Ar. Ayushi Basudev Tiwari	Maharashtra	A27984
39	Ar. Shrey Malhar Rao	Karnataka	A27985
40	Ar. Tejalinga	Karnataka	A27986
41	Ar. Shivkumar S Shellagi	Karnataka	A27987
42	Ar. Rohan G D	Karnataka	A27988
43	Ar. Rituja Bhagwan Gajre	Karnataka	A27989
44	Ar. Rasika Mohan Uchgaonkar	Maharashtra	A27990
45	Ar. Archana Vinayak Gaikwad	Maharashtra	A27991
46	Ms. Sidhu Jose	Kerala	A27992
47	Mr. Atul Saxena	Uttar Pradesh	A27993
48	Ms. Rajani M K	Kerala	A27994
49	Ar. Sandeep Yashwant Hardikar	Maharashtra	A27995
50	Ar. Sanjay Kumar Pathak	Haryana	A27996
51	Ar. Chirag Umeshkumar Chandani	Maharashtra	A27997
52	Ar. Swapnil Sharad Mendhe	Maharashtra	A27998
53	Ar. Rahul Narayanrao Gulhane	Maharashtra	A27999
54	Ar. Mahendra Tukaram Khambalkar	Maharashtra	A28000
55	Ar. Pankaj Vishnuji Hiware	Maharashtra	A28001
56	Ar. Nayan Pradiprao Kullarwar	Maharashtra	A28002
57	Ar. Vivek Motiramji Sathone	Maharashtra	A28003
58	Ar. Nikita Bansal	Maharashtra	A28004
59	Ar. Sanjay Govind Soni	Maharashtra	A28005
60	Ar. Anagha Vishwas Paranjape	Maharashtra	A28006
61	Ar. Gini Gopinath	Kerala	A28007
62	Ar. Serene Meccartin	Kerala	A28008
63	Ar. Manna Maria Nixon	Kerala	A28009
64	Ar. Reshma P R	Kerala	A28010

65	Ar. Megharaj K B	Kerala	A28011
66	Ar. Sujata Elizabeth Isaac	Kerala	A28012
67	Ar. Susan Aby	Kerala	A28013
68	Ar. Zarine Hoshang Jamshedji	Maharashtra	A28014
69	Ar. Chandrika S Mathpati	Karnataka	A28015
70	Ar. Harsh Gajjar	Gujarat	A28016
71	Ar. Ritika Prakash Uttamchandani	Gujarat	A28017
72	Ar. Kartikkumar Anilbhai Shah	Gujarat	A28018
73	Ar. Chaitanya Manohar Sneha Hirlekar	Maharashtra	A28019
74	Ar. Mohd. Azhar C	Karnataka	A28020
75	Ar. Aditya Anvekar	Karnataka	A28021
76	Ar. Anoop Kumar Choudhary	Madhya Pradesh	A28022
77	Ar. Rishi Sahu	Madhya Pradesh	A28023
78	Ar. Piyush Agrawal	Chhattisgarh	A28024
79	Ar. Chinmay Shekhar Sudame	Maharashtra	A28025
80	Ar. Appasaheb Kundalik Gaikwad	Maharashtra	A28026
81	Ar. Vishal Bafna	Maharashtra	A28027
82	Ar. Imran Mohammed Abbas Shaikh	Maharashtra	A28028
83	Ar. Geeta Hardik Pandit	Gujarat	A28029
84	Ar. Siddu B Kodli	Karnataka	A28030
85	Ar. Aakash R Tegnoor	Karnataka	A28031
86	Ar. Mitalee M Varadpande	Karnataka	A28032
87	Ar. Kedar Kinagi	Karnataka	A28033
88	Ar. Siddarth Shetty	Karnataka	A28034
89	Ar. Sai Shrushtee Khanderao	Karnataka	A28035
90	Ar. Gagan S Katamble	Karnataka	A28036
91	Ar. Ashutosh Garg	Odisha	A28037
92	Ar. Arnab Biswal	Odisha	A28038
93	Ar. Prajakta Sambhaji Honagekar	Karnataka	A28039
94	Ar. Akshay Vinayak Balla	Maharashtra	A28040
95	Ar. Tejas Mallinath Kore	Maharashtra	A28041
96	Ar. Vaishnavi Nilesh Yadav	Maharashtra	A28042
97	Ar. Rachel Thomas Easaw	Kerala	A28043
98	Ar. Ujwal Bhalchandra Chhaya Jamdare	Maharashtra	A28044
99	Ar. Aarssh Anneel Dharamathok	Maharashtra	A28045
100	Ms. Amita Mondal	West Bengal	A28046
101	Ar. Biraja Sundar Saha	Odisha	A28047
102	Ar. Thaslima Jasmine	Kerala	A28048
103	Ar. Karan Ashish Malushte	Maharashtra	A28049
104	Ar. Pushan Anand Limaye	Maharashtra	A28050
105	Ar. Shreyash Suniel Rukari	Maharashtra	A28051

106	Ar. Harshad Kishor Bhagwat	Maharashtra	A28052
107	Ar. Anusha Jose	Kerala	A28053
108	Ar. Nihala Parveen Aboobacker	Kerala	A28054
109	Ar. Aarti Balasaheb Jayshree Jadhav	Maharashtra	A28055
110	Ar. Yash Vijay Deepali Patil	Maharashtra	A28056
111	Ar. Eesha Abhay Anupama Vaishampayan	Maharashtra	A28057
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113	Ar. Ravi Kumar	Jammu & Kashmir	A28059
114	Ar. Aditya Kamath	Karnataka	A28060
115	Ar. Akash V	Karnataka	A28061
117	Ar. Priyanka Prakash Pradnya Bhalekar	Goa	A28062
118	Ar. Abu Saleh	Uttar Pradesh	A28064
119	Ar. Sardeep	Haryana	A28065
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122	Ar. Shobana K	Tamil Nadu	A28068
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124	Ar. Sindhu Ragavi S	Tamil Nadu	A28070
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127	Ar. Faizan Hussain P	Kerala	A28073
128	Ms. Richa Bakshi	Jammu & Kashmir	A28074
129	Ar. Sabyasachi Das	Odisha	A28075
130	Ar. Akshay P	Kerala	A28076
131	Ar. Thanthondriswaran S	Tamil Nadu	A28077
132	Ar. Pranab Swain	Odisha	A28078
133	Ar. Sree Ishitha Arisetty	Andhra Pradesh	A28079
134	Ar. Shalini Kant	Andhra Pradesh	A28080
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136	Ar. Santhosh Raj R	Tamil Nadu	A28082
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138	Ar. Doddi Gyana Jaswanth	Andhra Pradesh	A28084
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141	Ar. Sanghamitra Sarkar	West Bengal	A28087
142	Ar. Viraj Kishore Shitole	Maharashtra	A28088
143	Ar.Srikakulapu Venkata Pradeep	Andhra Pradesh	A28089
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146	Ar. Pushpendra Singh	Uttar Pradesh	A28092
147	Ar. Hania Hafees	Kerala	A28093

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148	Ar. Simma Tilak	Andhra Pradesh	A28094
149	Ar. Midhun M	Kerala	A28095
150	Ar. Deepthi	Kerala	A28096
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153	Ar. Sankriti Gupta	Uttarakhand	A28099
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163	Ar. Tanzeel Ahmed	Punjab	A28109
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166	Ar. Madeeha Aslam	Jammu & Kashmir	A28112
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169	Ar. Athul T Narayanan	Kerala	A28115
170	Ar. Tasaduq Shah	Jammu & Kashmir	A28116
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187	Ar. Kashyap Ashwinbhai Parsana	Gujarat	A28133
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205	Ar. Chaitra S	Karnataka	A28151
206	Ar. Parinita Hati	West Bengal	A28152
207	Ar. Tamal Chaudhuri	West Bengal	A28153
208	Ar. Priyanka J	Kerala	A28154
209	Ar. Shahid Showkat	Jammu & Kashmir	A28155
210	Ar. Saurabh Balasaheb Nimase	Maharashtra	A28156
211	Ar. Mayank Chaudhary	Rajasthan	A28157
212	Ar. Shivani C S	Kerala	A28158
213	Ar. Jerome Benhur K.	Tamil Nadu	A28159
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215	Ar. Sadaf Aafreen A Waheed Nayak	Maharashtra	A28161
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217	Ar. Aromal R I	Kerala	A28163
218	Ar. Chirag	Punjab	A28164
219	Ar. Gokula Murali K N	Tamil Nadu	A28165
220	Ar. Manish Pradhan	Odisha	A28166
221	Ar. Suhas Hanmant Nalawade	Maharashtra	A28167
222	Ar. Raj Kumar R S	Tamil Nadu	A28168
223	Ar. Wasim Showkat	Jammu & Kashmir	A28169
224	Ar. Suganya S	Tamil Nadu	A28170
225	Ar. Premkumar Yashwantlal Pardhi	Maharashtra	A28171
226	Ar. Pooja Nitin Bihani	West Bengal	A28172
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228	Ar. Devendra Kumar Singh	Uttarakhand	A28174
229	Ar. Rajavelu R	Tamil Nadu	A28175

230	Ar. Yatindra Yashwant Patil	Maharashtra	A28176
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232	Ar. Sudheendra Naik K I	Kerala	A28178
233	Ar. Sarath Satheesh	Kerala	A28179
234	Ar. Jefin Jose	Kerala	A28180
235	Ar. Areen Abdulla Sabiha Attari	Maharashtra	A28181
236	Ar. Sanjay B P	Kerala	A28182
237	Ar. Murshid Khan	Madhya Pradesh	A28183
238	Ar. Anamika Anil	Kerala	A28184
239	Ar. Prathamesh Dattatray Musale	Maharashtra	A28185
240	Ar. Ronit Tukaram Pawar	Maharashtra	A28186
241	Ar. Krunal Ajaykumar Patel	Gujarat	A28187
242	Ar. Emil Jean	Kerala	A28188
243	Ar. Priyansh Vyas	Rajasthan	A28189
244	Ar. Rajeesh Thayyil	Kerala	A28190
245	Ar. Shilpa T	Kerala	A28191
246	Ar. Mohd. Rashideen Saifi	Uttar Pradesh	A28192
247	Ar. Yerra Charitha	Andhra Pradesh	A28193
248	Ar. Ruchi Rameshchandra Gandhi	Gujarat	A28194
249	Ar. Pradip Gogoi	Assam	A28195
250	Ms. Anam Shaheen	Uttar Pradesh	A28196
251	Ar. Sachin Gajanan Mangla Taktode	Maharashtra	A28197
252	Ar. Harshwardhan	Rajasthan	A28198
253	Ar. Rohit Sharma	West Bengal	A28199
254	Ar. Rafnas P M	Kerala	A28200
255	Ar. Bhaskari Devi	Assam	A28201
256	Ar. Ameena Shahul	Kerala	A28202
257	Ar. Aswin Rajeev	Kerala	A28203
258	Ar. Souktik Bhattacherjee	West Bengal	A28204
259	Ar. Biplob Das	Assam	A28205
260	Ar. Rajaniganth D	Tamil Nadu	A28206
261	Ar. Ayush Dinesh Agrawal	Maharashtra	A28207
262	Ar. Kritika Agarwal	Rajasthan	A28208
263	Ar. Vijayarajan R	Tamil Nadu	A28209
264	Ar. Raj Dilipkumar Neelu Mevada	Madhya Pradesh	A28210

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Find your own rhythm,
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03 Indian Architecture Awards (IAA)

Eligible: Any Indian Architect

04 Indian State Architecture Awards (ISAA)

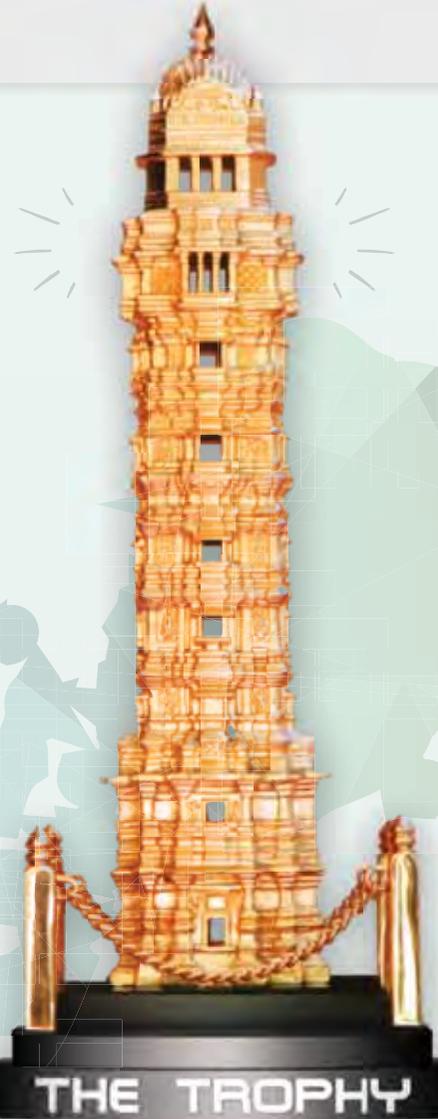Eligible: Indian Architect's from the Focus State (Rotation Every year)

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