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LANDSCAPE

institutional campuses

COVER & THIS PAGE | **Master Plans of Institutional Campuses:** Nalanda University, Rajgir | South Asian University, New Delhi | Care Campus, Trichy | NIIT University, Neemrana

editorial

These are cruel times. In the last few months, we have lot many luminous and passionate personalities related to the world of environment, spatial design, and planning – Sethuram Gopalrao Neginhal, conservationist, Sundarlal Bahuguna, crusader of Chipko, the first-ever community-led environmental movement in the country, and Dinesh Mohan, an engineer who became a flag bearer of the idea of public transport. Their powerful ideas and inspiring works have contributed immensely to the well-being of our cities, towns and environment. With the passing away of M.S. Ashish Ganju, architect and academician, the design fraternity has lost a very significant voice. It is a deep personal loss for us as well. With tributes pouring in from across continents, his path-breaking works and thought-provoking philosophical discourses of knowledge, intellect and wisdom will be cherished forever.

With the increase in the scale and complexities of institutional campuses, their design approach is now more diverse. Many inspirations for such developments are sited in regional landscapes, especially in the ways of conserving natural resources. Very often, these contemporary designs take in account diverse aspects of environmental management and placemaking, where professionals adopt radical approaches. In issue #38 [*LA, Journal,* May 2012], we featured a few of such developments. This issue showcases a few more.

A deep concern for nature, ecology, and local culture in development was the basis for the architectural practice of eminent architect Joseph Allen Stein, who practiced in India from the 60s till the late 90s. Snehanshu Mukherjee reviews *Building in the Garden* by Stephan White that documents his professional journey. In present times, learning from his practice attains a special significance. A new book, *Radical City,* shares some of these ideas of looking at the idea of "city", not only from the lens of design and planning but also through other citizen-centric aspects.

Take care and stay safe.

—EDITORS

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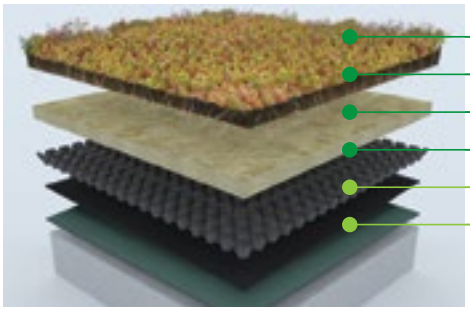

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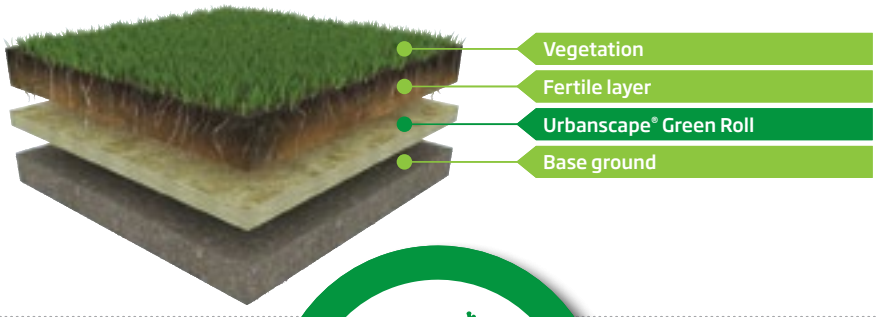

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Narendra Dengle, Architect & Academician
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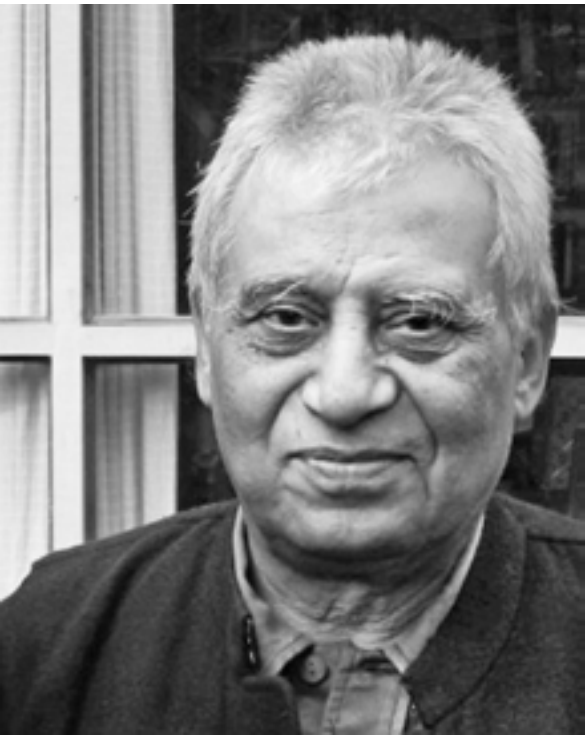
Muni Ganju
A wise man of Indian Architecture



Munishwar Nath Ashish Ganju
PHOTO SOURCE | ***greha.org***
PHOTO CREDIT | ***Narendra Dengle***

I never knew that I would have to write an obituary for my esteemed friend Munishwar Nath Ashish Ganju. This indeed is a moment of deep sorrow for me.

I came to know Muni in the early 70s. 'Muni' for some of us, 'Ashish' for many others. We taught for some time at the SPA's Landscape Department, and also at the Department of Architecture, as a team. In those days there were many things we shared from wearing *khadi* to discussing visual arts, social housing, and literature. He and Vinod K. Gupta, both my friends, were partners at the time. However, my closer association with Muni began much later, when I moved to Pune and started revisiting Delhi in the 1990s for INTACH meetings or reviews at the SPA; it strengthened when we decided to hold discussions between the two of us on what architecture meant to us, in 2011. At the time of his sudden departure from this world, we were speaking for long hours with each other almost every day.

Muni's return to India for 'higher education', as he called it, after completing studies at the AA, and working with Norman Foster in England, symbolizes his disillusionment with the turn architecture had taken after the Industrial Revolution in the west. Although he was proud of studying at the AA in the mid-sixties, where spirited ideas in music, arts, psychedelics free floated, and London was a happening place, he was becoming acutely aware of how modernism was becoming a derogatory force through industrial mass production, crippling of traditional crafts communities, degradation of the state of ecology and environment, and architecture that had begun to worship the machine.

FACING PAGE |
THE MANDALA
Emblem of GREHA representing Building, Learning, Health and Regeneration. The word 'greha' itself symbolises both 'home' and 'planet'

During our discussion, he says, "When I returned to India after my training abroad, the same familiar space that I was brought up in... I was walking around it but I was seeing it with new eyes. Because suddenly I realized that I could not see any edges – any hard edges to it. In the Industrial world, the boundaries and edges were very clear and these were hard edges... And here people were negotiating space quite okay, without bumping into each other or having confusion! ...We move around space like bats. Bats are blind. They move through their radar of the ears, hearing, and we as a culture do that. We actually negotiate space as bats do... We are visually illiterate but well literate orally, we, therefore, find meaningful places... places of silence in this country... you feel transformed not because you can't see but by being aware of the 'notion of being'. The notion of being is very much alive in our culture. To bring this notion of being into architectural terminology is a challenge." His association with UNICEF took him around rural India, which must have acquainted him with how communities built their habitat sensibly and holistically, saved from and unaware of the thrust of modernism. My practice too had taken me to tribal and rural communities and knew exactly what he meant by soft edges.

Muni's convictions came from the phenomenal reality he experienced around. He was not fooled by the technology-dominated gymnastics of architecture that was influencing architects all over the world. He was serious about his intention and pursuit to go within himself, and at the same time be a realist by connecting with real people. So he met Kashmiri *tantriks,* came in contact with H.H. the Dalai Lama, followed rituals and practices at home, and yet engaged himself in building construction by examining traditional ways. He said, "I learnt on Press Enclave site [the group housing he designed in south Delhi] what building is all about. It is fascinating and heartbreaking at the same time because you learn what kind of practices go on." He was insistent in saying, "Students must spend a semester working as helpers to *mistires* or labour", as opposed to making working drawings in schools. This was a ridiculously futile exercise. And this was a clear realization from inadequacies in the prevalent pedagogy in India. He himself was not a 'hands-on' person in any way. And, he had now stopped making sketches or drawings. He believed he had to 'resolve things in the mind first and start seeing them', which he would then prompt someone to draw or develop on a computer.

We are visually illiterate but well literate orally, we, therefore, find meaningful places... places of silence in this country... you feel transformed not because you can't see but by being aware of the 'notion of being'.

Muni personifies for me a man of deep convictions resulting from the seriousness of pursuit of inquiry into whatever gnawed him from within. Once he saw the truth of it, he had to discover a method to translate it into architecture. He wasn't bothered about the mainstream architecture of

'starchitects' of the developed world, and never felt the necessity to echo the same through work in India. Using intelligence to traverse different fields, engaging in hot arguments, creating a platform for similarly dedicated persons to share their learnings came to him, naturally. He was ingenious to find financial sources to support such ventures. He founded GREHA with a few like-minded people, in promoting 'architecture for society'. Within himself, he was a deeply warm person, open to building bridges and motivating young architects. If he took on something like, for instance, starting the TVB School of Habitat Studies, he gave everything to it. He could not suffer superficiality and nonsense.

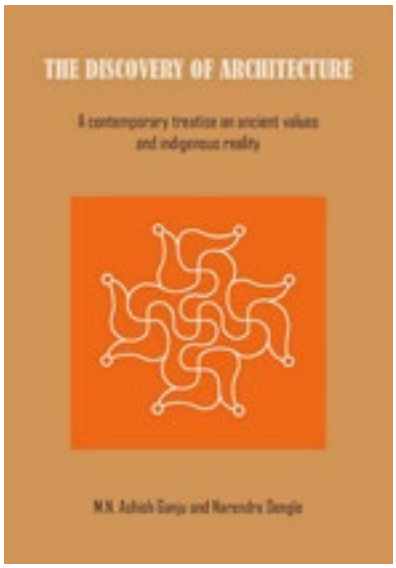
Muni was blessed with a good memory, and was well-read and informed about visual arts, religious studies, philosophies, sciences, architecture, and politics around, and made friends in all these fields. He loved and enjoyed being with his family. But with his mind occupied with resolving many such riddles, he was uncomfortable with the very idea of going on holiday.

His father had a furniture business in Delhi and observant that he was, attention to detail—whether in a work or writing a text—became his second nature. He emphasized on maintenance as a non-negotiable factor to reckon with in design.

He built his house and studio in the informal settlement of Aya Nagar and moved there in 2001, and soon began engaging with the local community to solve soil and surface water drainage issues, so fundamental for any community's wellbeing. For him, the entire physical world and traditional communities were the 'ancient text' to learn from.

'The Discovery of Architecture', was a memorable exercise for us both. It continued for a year. We probed into the mysterious areas of spirituality, wanting to find processes of its manifestation through architecture, recognizing false as false. A need to probe some ancient scriptures for relevance was felt by us although none of us read Sanskrit, Pali, or Farsi, and had to depend on English translations of Buddhist and Sanskrit texts. Our meetings continued even after the book was published.

He made friends in different walks of life, and founded and led GREHA to make architecture socially relevant. In his pursuit of knowledge, he founded the Collegium of Architecture and ran it for several years. Later he continued the same effort under Architecture for Society, at the Habitat Centre in New Delhi that lent a platform for people to



ANCIENT VALUES INDIGENOUS REALITY

A contemporary treatise on ancient values and indigenous reality, the book is an essay on the need for a new theoretical understanding of architecture relevant to our times. It proposes an analytical framework which can form the matrix for the new understanding to emerge.
Authors: M.N. Ashish Ganju and Narendra Dengle
Published by GHREHA Publications, 2013

share and critique their experience in urbanism, history, habitat, and environment. He was drawn to Tibetan Buddhism and held it in the highest regard and built a close association through his work in Dharamshala with H.H. the Dalai Lama, and also other Buddhist scholars. He knew the traditions in Kashmiri Shaivism from within his family. He was seriously concerned about the concentration of mind, and gathering the inner strength of one's spirit for an act of architecture.

We were invited to be part of the faculty at the Building Beauty program started in 2017 at Sorrento, Italy, based on Christopher Alexander's writings, especially *'The Nature of Order'*. Muni was very much involved in it when the course was offered online in 2020-21.

Muni has left too suddenly leaving many unfinished projects behind – but that's how life is – one never knows what the next moment has in store for us. And also, as such, no project really ends. There always is a spiral that continues to rediscover. We recognized it as 'the act of building with the awareness of the evolving universe', as the second part of the matrix proposed in *The Discovery of Architecture*. I am reminded of what he once discussed from Nagarjuna's texts. He said, "Acquiring skills and transforming consciousness at the same time is lacking in our education... Method is single-pointed concentration, while wisdom is understanding *shunyata,* and these must come in equal measure in omniscience". In his passing away we have lost a wise man of architecture.

Acquiring skills and transforming consciousness at the same time is lacking in our education... Method is single-pointed concentration, while wisdom is understanding *shunyata,* and these must come in equal measure in omniscience.

LEFT |
M.N. Ashish Ganju with Narendra Dengle. Bundi, February 2015
PHOTO CREDIT |
Nileema Ganju

Geeta Wahi Dua, Landscape Architect
| lajournalindia@gmail.com

"Between the Earth and the Sky"[1]

In 2007, *LA Journal* featured Munishwar Nath Ashish Ganju under the Profile section, in which he shared his professional journey. It was our first formal encounter with him. In the feature, he observes, "The search for a design philosophy, which gave meaning to our everyday reality, was brought into focus when I travelled in the rural areas of India on assignment for UNICEF and the Rural Development Department of the Government of India in the late 70s. It was an extraordinary voyage of discovery, learning from the wisdom of our indigenous communities about age-old building practices, and of living in harmony with nature." He further adds, "My architectural practice provided the ground for the exploration of architecture as a manifestation of ancient sacred principles, so much a part of our everyday existence with no distinction between architecture, interior, landscape or urban design."

He referred to India as a global laboratory of learning for the whole world often mentioning, "After my under graduation in England in 1967, I came back to India for higher learning."

When we couple faith with Nature, we embark on a path of arriving at such an understanding, which is the expression of an ecological world view.

About a decade later, in his introductory essay of a special section, *Faith and Nature* [*LA Journal,* #55, 2018], he observes, "When we couple faith with Nature, we embark on a path of arriving at such an understanding, which is the expression of an ecological world view. The discipline and profession of landscape architecture is uniquely positioned to promote this holistic approach to Nature since its core practice is to take care of the land – our Mother Earth – and this involves and integrates all living things in a web of interdependence."

These profound statements give a glimpse of an evolved, confident and clear thinking of a professional. There are no lofty aspirations or unrealistic expectations but a grounded consciousness of a larger order and commitment to explore and learn. These were some of the values that Ashish followed all his life and on his terms.

[1] Title from *Between the Earth and the Sky* – an Architectural Journey in Portfolio of Works, M.N. Ashish Ganju. London, 1998

Along with his design creations and an incredible contribution to architecture education, Ashish's other professional accolades are equally note-worthy. In the early 70s, he was one of the earliest faculty members in the country's first postgraduate program of Landscape Architecture at the School of Planning and Architecture, New Delhi with Ravindra Bhan. For *Festival of India* [the 80s], an international travelling exhibition, his extensive research on the traditional settlement of the hill town of Kashmir as part of the section on *Traditional Architecture,* drew attention to the values of the Indian vernacular, a lifelong lesson for the Indian architecture discourse.

He co-founded [with Vinod Gupta and K.L.Nadir in 1976] GREHA, and later registered it [1986] as a non-profit society involved in the research of human habitat. Later, with some of his past colleagues, he established the TVB School of Habitat Studies [1990]. It was an extraordinary radical experiment in spatial design education in the country, with learning from the sub continent's traditional settlements and vernacular traditions as its intellectual core. In his words, "The School became a vehicle for research and rediscovery of an Indian architectural ethos." Over a period of 17 years, it became an institution of repute with over 300 architects graduating from its campus at Vasant Kunj in New Delhi. In 2007, it came under the affiliation of Guru Gobind Singh Indraprastha GGSIP University within its own Department of Architecture.

Often referring to the informal sector of urban villages, slums, and resettlements colonies as new Indian urbanity, he had deep faith in the wisdom of the common man. In his views, renewal of these areas guided by local residents, professionals and experts with active collaboration with implementing agencies and authorities will usher a new type of urbanity, distinct to the Indian context and not an imported model. His work of renewal of basic infrastructure at Aya Nagar [1999 onwards], is one of the most inspiring stories in Indian urbanism in recent times, where a participatory model of development was practiced for urban renewal of a small part of the urban village, by designing scientific and cost-effective sewage and drainage system in absence of the conventional infrastructure.

He was a prolific thinker and writer who wrote on various issues related to architecture and society. In the late 90s, with the idea of re-visioning prestigious Lutyen's Bungalow Zone in New Delhi, Ashish formulated various proposals for its redevelopment plan for the Ministry of Urban Development, Government of India.

The Discovery of Architecture: A Contemporary Treatise on Ancient Values and Indigenous Reality [2013], which Ashish co-authored [with Narendra Dengle] is an invaluable professional resource that explores a set of philosophical values – "self versus community, aware actions, maintenance as renewal

ABOVE |
Emblem of the TVB School of Habitat Studies

The School became a vehicle for research and rediscovery of an Indian architectural ethos.

and regeneration with learning in the realm of the built environment". GREHA's monthly lecture series, *Architecture and Society* [since 2015, and later with Epistle Communications], is another unique effort where people from diverse sections of the society like scientists, practitioners, social workers, naturalists, artists, entrepreneurs, and others, working in the area of the public domain to create sustainable, pluralistic, inclusive and livable contexts were invited to share their journeys. In recent years, GREHA, in collaboration with the Council of Architecture, INTACH, and the Indian Institute of Architects proposed the idea of a National Museum of Architecture in India. He was actively working upon it, gathering support from various institutions, eminent citizens, and government authorities.

Our association with Ashish Ganju became more close and deep in the last few years. Always encouraging us to follow the chosen path, he was a regular contributor to the Journal – writing articles, sharing his views, reviewing books, and giving his advice in many other ways. He was a member of *Friends of Foundation,* a small group which we set up a few years ago for Landscape Foundation, India, our non-profit trust. He was very generous in sharing his knowledge, ideas, and resources persons who shared similar values.

Well informed about the trends in almost all fields of design and culture across continents, he had the rare ability to look at contexts with a reflective, holistic and broad perspective while deciphering valuable lessons from them. He was a life-long learner, ever eager to learn new thinking from wherever he could. His curiosity and rigour to learn were very infectious.

With a spiritual and religious inclination of mind, he always tried to appropriate contexts in the larger frameworks. His stories during our often long telephone discussions and in meetings at his office were always inspiring and enlightening lessons of knowledge and wisdom. His deep, thought-provoking and comforting words helped us to be at home in this world. We cherish these as sources of delight, which have contributed immensely to our understanding of the self, society and its matters.

About three weeks before he passed away, on realising my anxiousness and worry about my daughter's career, he offered his words of solace, "You shouldn't worry at all. There are thousands of unseen forces of the universe which work to shape the destiny of an individual, and which he or she is not even aware of. You will see, everything will ultimately fall in place." These words still ring an echo as he has left for the unknown. He will be at peace with himself and his world, where ever he is, I am sure of that.

Munishwar Nath Ashish Ganju

Born in Lyallpur [now in Pakistan] in 1942

Architecture Diploma from *AA School of Architecture,* London in 1966

Founded GREHA, an organization for the growth of knowledge in the field of environmental development, 1974

Registered GREHA, non-government, not-for-profit society, 1986

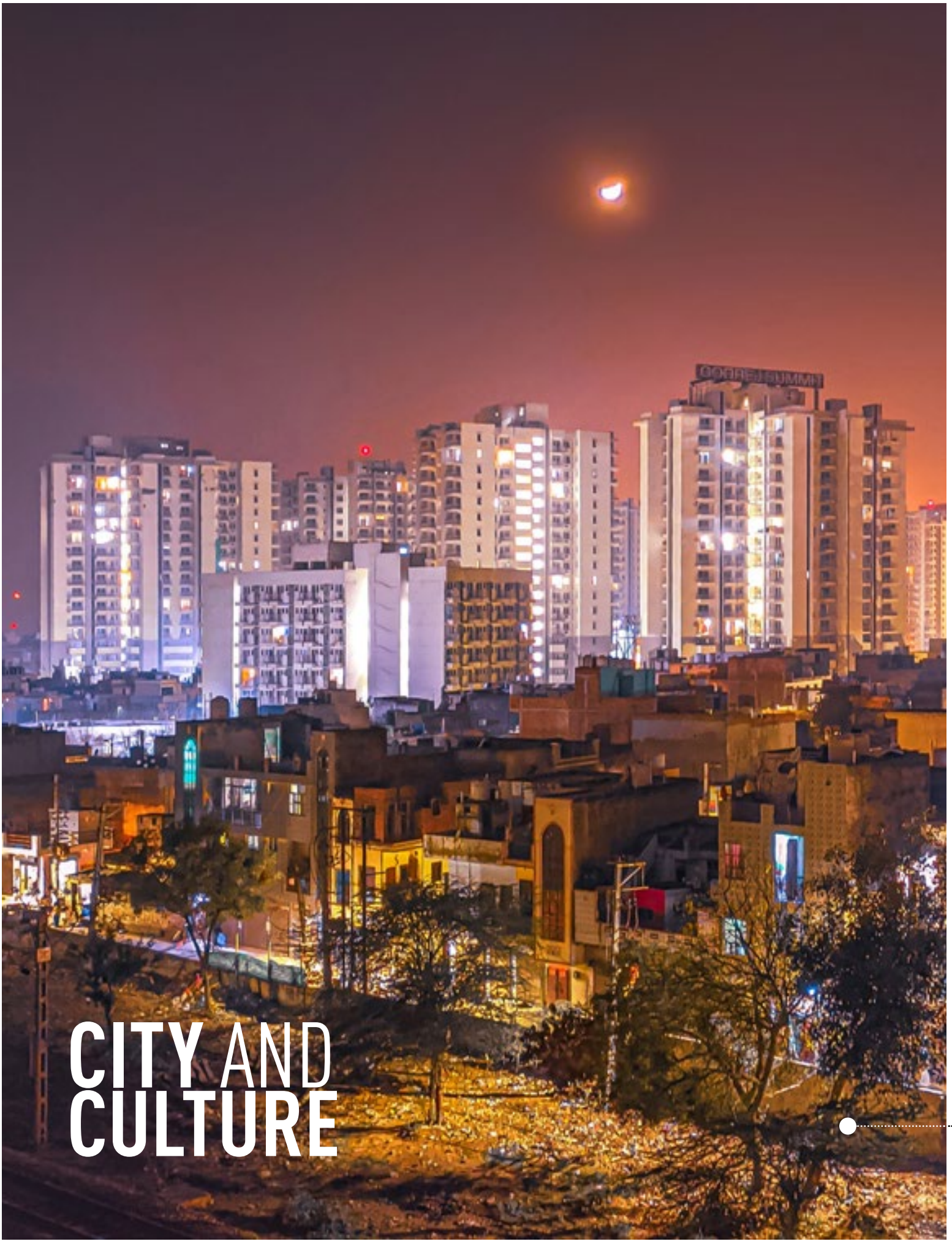
Founder Director of *TVB School of Habitat Studies,* New Delhi, 1990 onwards

Renewal of basic Infrastructure at Aya Nagar, an urban village, New Delhi [1999 onwards]

Co-authored *Discovery of Architecture, A contemporary Treatise on Ancient Values and Indigenous Reality,* 2013

He passed away on 5th May, 2021

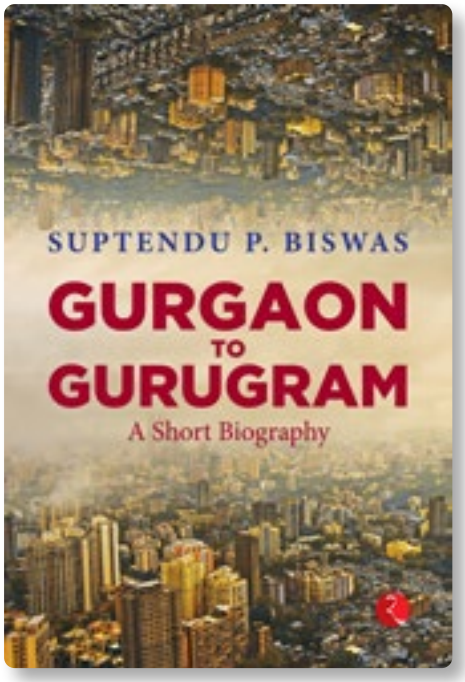
For more information about M.N. Ashish Ganju's works, readers may explore: greha.org, architexturez.net, and **architecturelive.in**



CITY AND CULTURE

Review by **Rajat Ray,** Urban Designer & Academician
| shalgram@gmail.com

DECIPHERING URBANITY



GURGAON TO GURUGRAM:
A SHORT BIOGRAPHY
Author: Suptendu P. Biswas
Published by Rupa Publications India, 2021
Size 203 x 254 mm, 168 Pages
Paperback
ISBN: 978-93-90356-40-9

Gurgaon to Gurugram is the story of transformation of a rural town to a thriving business subcity, shaped by various political and economical forces, while battling serious socio cultural and environmental issues.

Gurgaon, the large haphazard and messy patch of urban development betrays many classic definitions of a city, at the same time it begs to be called one. *Gurgaon to Gurugram* is an exquisite literary representation of the phenomenon called Gurgaon, its body and mind, and perhaps evens a search for its soul. Set in a chronological frame it is a story of becoming and being of a city as identified by the author through his personal engagements with it as an often interactive observer of the place and its people; it is told in an intimate first-person narrative. Nevertheless, the story brings together significant aspects of an almost sudden development of the new part of Gurgaon on the land stretch between old late medieval Gurgaon town and the south-western boundary of the city of Delhi. It is a story but it is not really fictional as it is squarely based on facts and real events and real protagonists. It illustrates the important factors of production if Gurgaon, like dynamics of land and planning policy of Punjab and Haryana State, facilitating of private development of the suburban extension of Delhi, setting up of a magnum size automobile manufacturing hub and subsequent pouring in of new investments by private developers and corporate houses.

Story it is, but with an almost historical sequence of five sections as four chapters each titled by excellently chosen headings namely "*Transition*", "*Ambition*", "*Impression*", and "*Contradiction*" that represent four essential existential conditions that Gurgaon can

FACING PAGE |
GURGAON
PHOTO CREDIT | ***Sooraj Dev on Unsplash***

be identified with. The themes of the chapters are introduced through respective real protagonists of Gurgaon who the author personally met and it renders the narrative an authenticity and generates the flavor. Rising of Gurgaon from a rugged rural sparsely populated landscape with rather simple people of a rustic nature in the outskirts of a sleepy old town with their domesticated animals; into a multilayered and reasonably dense lofty urbanscape with an extreme variety of peoples, economies, cultures and societies, and buildings and precincts, and automobiles, and lights and shining signs albeit still unable to lit up numerous remaining dark pits, is illustrated through these four chapters. Internal frictions of this striking composition are articulated. The reasons for dichotomies in its judgment of its quality, the opposing opinions about Gurgaon as an urban development become explicit in these chapters. The fifth chapter presents views on the city from different angles. It points at both individual and collective attempts with public and private agencies trying to hold hands to address some fundamental problems, trying to take action for alleviating serious lacunae of urban services, and environmental degradation. These exude some decent sense of optimism against usually pessimistic academic criticisms from the outside.

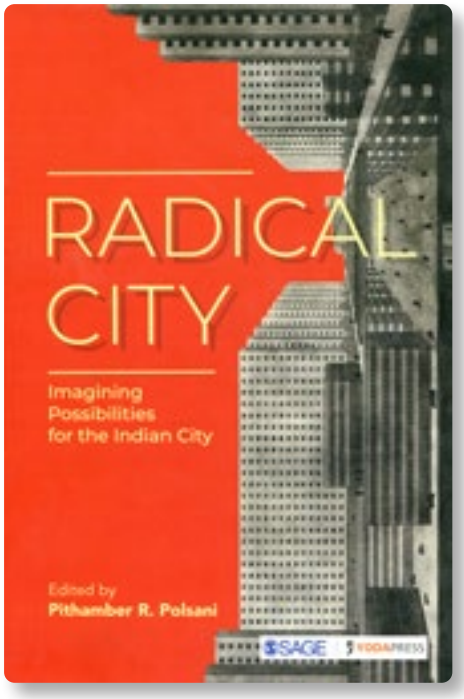
But, to see the haphazard urban patch of Gurgaon in terms of the rather aesthetic ideological construct of 'Collage City' of Colin Rohe is perhaps rather pretentious or for that matter so it is to see this even in terms of Biswas's own theoretical construct of 'Assorted City'. If one needs to locate Gurgaon in a larger narrative, among the plethora of contemporary literature, it may be seen much more comfortably in the historically-derived category of 'Technoburbs' by Robert Fishman, the historian of the suburbia. One will find correspondence almost at each level; it just needs pushing a nominal medieval layer, the myth of Gurugram, underneath not quite available in Northern America.

If one needs to locate Gurgaon in a larger narrative, among the plethora of contemporary literature, it may be seen much more comfortably in the historically–derived category of 'Technoburbs' by Robert Fishman, the historian of the suburbia.

Notwithstanding that small redundancy, back to our book proper, it is not a boring report, neither it is a recommendation a plan or a design project, nor it is simply a socio-economic and political analysis. It does have a bit of it all. Biswas's beautiful text and the whole book in itself is a particular way of 'city reading' that must be exposed to all students of urbanism. This is not an easy task, it is not a simple job to come out with such a lucid work that is so personal and perhaps almost emotional at times but actually founded on meticulous objective research, solid information base, extensive knowledge of the subject and an erudition of high order. It is evident that only a combination of personal involvement with the place over a long period of time coupled with subject expertise and an analytical capability may result in this kind of work. It is a delightful read.

Review by Geeta Wahi Dua, Landscape Architect
| lajournalindia@gmail.com

A CANVAS OF POSSIBILITIES



RADICAL CITY
IMAGINING POSSIBILITIES FOR
THE INDIAN CITY
Editor: Pithamber R. Polsani
Published by Sage and Yoda Press, 2021
ISBN: 978-93-5388-714-8

Radical City explores the dynamics of Indian cities, while looking at contexts from their histories and expands their understanding beyond the conventional narratives of design and planning. On the way it brings to forefront lessons which can enlighten their growth stories in future.

The subject of Indian cities, especially in the 21st century, has occupied the minds of academia and professionals for a long time. Many belonging to different disciplines have contributed to the complex subject — — *Delirious City: Polity and Vanity in Urban India* [Gautam Bhatia, 2019], *Looking Away* [Harsh Mandar 2015], *Transforming our Cities* [Ishar Judge Ahluwalia, 2014], *Contesting the Indian City: Global Visions and the Politics of the Local* [Gavin Shatkin, 2013], *Indian Cities in Transition* [Anupama Shaw, 2007], and many others. There is commonality in the kind of concerns – physical, social, ecological, and economic issues – that are being raised, mainly related to the pace and scale of urbanization, in the decades after the economic boom of the 90s. Some of these include over-reliance on technology, non-contextual models of urbanization, exclusive public space, gated communities, widening gap between economic classes of society, and so on. A significant revelation that comes to the forefront is that the urban planning and design discourse in India needs to be much more informed and enriched by socio-cultural and economic concerns and aesthetic and philosophical imaginations for reading the city as a collective society. At present, it is lopsided with over-attention towards the physical attributes of the space, landuses and other alternatives of conventional planning, which negate all other important aspects.

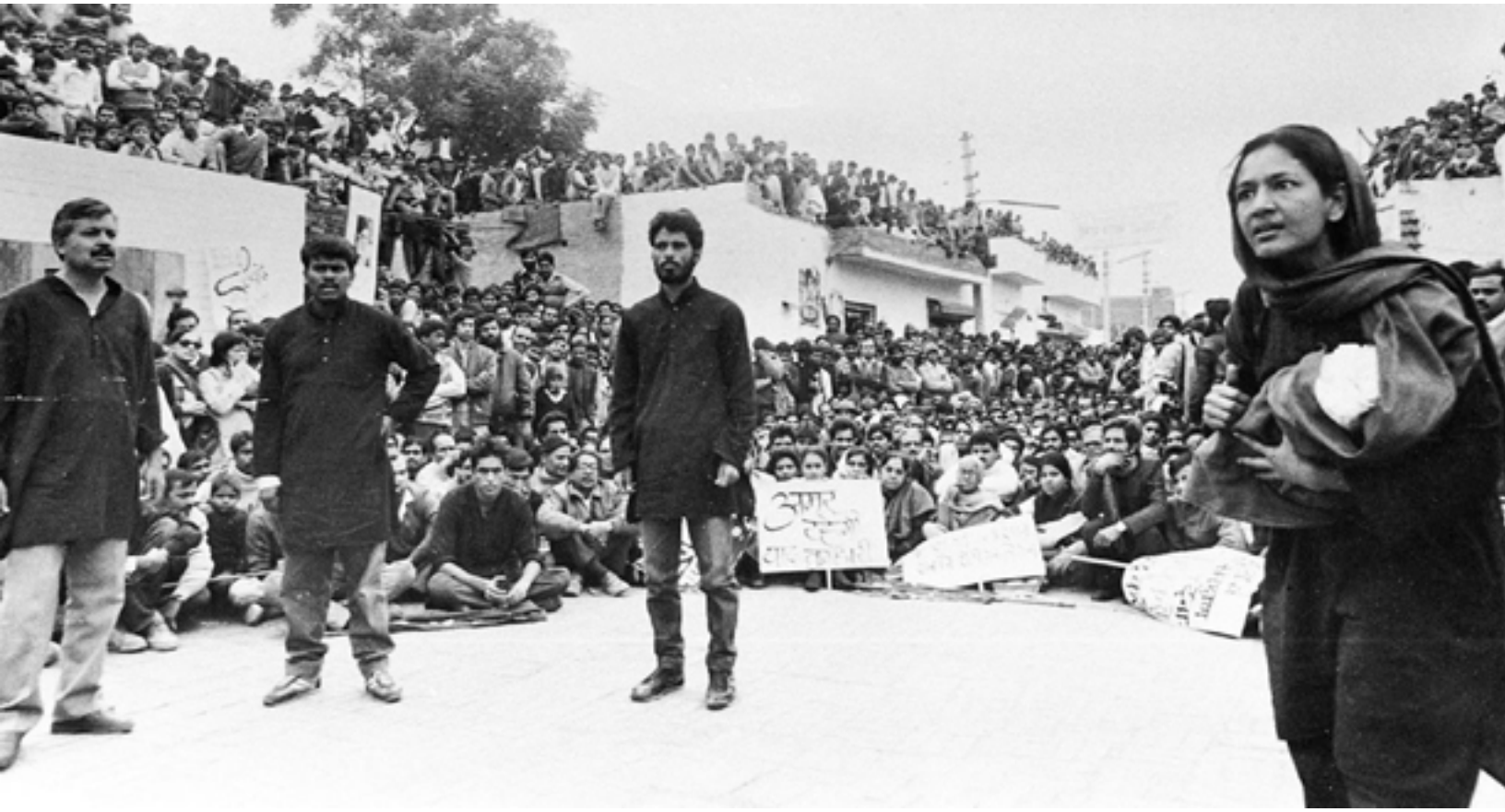
Recently released, *Radical City, Imagining Possibilities for the Indian City* [Sage and Yoda Press, 2021] further extends the discourse about the potentials and failures of Indian Cities in the context of the 21st century. The book studies some of the specific contexts in the history of Indian Cities and present times that enlighten relevant and realistic knowledge while exploring new alternatives. It also contests the formal systems of city planning and design which, in many authors' views, have failed to understand and decipher complex urban realities of the country.

Edited by Pithamber R. Polsani, Dean at the School of Advanced Studies and Research, Srishti Manipal Institute of Art, Design and Technology in Bengaluru, the collection of essays are by eminent practitioners and academicians, belonging to a diverse set of disciplines – history, architecture, design and planning, conservation, urban research, film making and performing arts. Many of them, M.N. Ashish Ganju, Sohail Hashmi, Neelkanth Chhaya, and Mustansir Dalvi, to name a few, have been known for their exemplary work in academia and practice in the area of understanding the multilayered Indian urban matrix for decades. Each one of them brings his/ her understanding, personal reflections, and perception of the theme, while all are united in their larger ideas about imagining Indian cities with traits of inclusiveness, plurality, and possibilities.

The book is divided into five sections – *A Field of Inspiration, Palimpsest of Possibilities, Fractured Realities, Material Manifestations,* and *Potentials and Probabilities.*

A Field of Inspiration comprises series of perspectives to look at the city from an artistic and exploratory lens, infusing meaning and value to its daily use spaces. The first essay, The City as Stage, looks at the idea of performing art of the street theatre, as a tool to define the spaces of a city as fundamentally democratic, free for all to attend and leave, making them spaces of assertion and contestation. The medium gives an opportunity to every person on the street to become an active participant in the city dynamics, reinforcing the idea of "belonging" to it. Another layer of the sense of belonging is explored in *Belonging in a City of Unbelongers.* It describes the culture of a city that is disseminated through visual literature and mass media. These mental imageries of the "perception" of belonging, especially for the newcomer, are a manufactured reality, a fantasy of relating to a city with no contact with the natural, social and cultural contexts. In the context of this complex layering, the essay calls for re-imagining cities without the "architects' lens" or beyond the "architecture fraternity with its narrowed and stereotypical reading".

"In the next few decades a billion people will be urbanised. There will be over 40 megacities—more than 10 million inhabitants—most of which will be located in the 'global south', especially China and India. Cities already stretched to the seams will explode. The accelerated global warming and extreme weather events will only make the situation worse resulting in unimaginable consequences. ***Radical City: Imagining Possibilities for the Indian City*** argues that we should urgently reflect on the question raised by the luminaries of Congrès Internationaux d'Architecture Moderne [CIAM] nearly a century back, 'Should our cities survive?', because the Functional City—a conglomeration with differentiated zones of activity and transportation of people and materials between the zones—invented by CIAM has outlived its usefulness. Rethinking the city, therefore, cannot be the province of planners and technocrats alone. Instead, this book brings together artists, architects, writers, poets, designers, urban planners, social scientists, humanists and others to think about the city and its possibilities."
—From the book blurb



ABOVE |
THE CITY AS STAGE
Janam led by Moloyashree Hashmi, returns to the very spot where Safdar Hashmi was killed less than 48 hours after his death, to complete the interrupted performance of Halla Bol on 4 January 1989
PHOTO CREDIT | ***Jana Natya Manch***

City: The Perceptual Field of Inspiration, delves on exploring a historic city through the art of filmmaking by a group of students [Srishti School of Art and Architecture, Bengaluru], where, through short films, they discover both the medium and the muse. A series of films explores the city of Bidar through its flavors, color, smells, and sounds along with gender politics, class divide, and the idea of identities through its history. It concludes that the "city is to film students as cinema is to city, the origin of both being the seat of emotion, the mind." *Non-human Nature and City Life* calls for the inclusion of non-human nature in city planning which "positions reverence for life at the center of the world view". It tries to explore a middle ground where both human and non-human can co-exist in the city in their own ways.

Palimpsest of Possibilities is a compilation of three essays that explores specific historic contexts in regard to cities of Delhi, Ahmedabad, and Lucknow, to bring to forefront values that can be referred to in the present context.

Exploring the idea of a city through various learning's from traditional settlements, *What is a City,* through the lens of history, looks at various non-physical aspects that contribute to the idea of a city. It includes the idea of collective over individualism, cosmopolitanism, inclusivity, and acknowledgment of the strong and respectable role of migrants in shaping it. The author adopts two traditional cities of Delhi, Mehrauli, and Shahjahanabad as examples to explain these ideas of urbanism when mixing of traditions established a dialogue. The engagement of people belonging to different cultures and languages was encouraged, resulting in a culturally rich urban society. The essay further compares these ideas with the present development of smart cities, which are visualized as "watertight isolated compartments" that are imposed and have no significant value attached to the idea of "collective" or a "society".

City as Organic Patchwork, City as Streamlined Machine studies the "development language" of the traditional settlement of Ahmedabad in the 14th century, as a slow process of adaptation to circumstances, as locally varied responses which were free to adopt and adapt and was emergent rather than imposed. It responded towards the natural topography and believed in "living vitality of the organic process" and formal clarity given by thought out concept. These systems worked on a small scale while achieving coherence and unity at a larger scale. The author notes that the present development realms, which are non-democratic placemaking, do not accept diversity and unpredictability, and stand in strong contrast to these invaluable examples.

The "development language" of traditional settlement of Ahmedabad in the 14th century, as a slow process of adaptation to circumstances, as locally varied responses which were free to adopt and adapt and was emergent rather than imposed.

Lucknow Unrestrained: Palimpsest of Incongruous Possibilities, a studio exercise [CEPT Studio: Architecture by History – Case Example of Lucknow, 2018] tries to access the layered history of the city by creating a series of thematic maps and illustrations. Marking sites of memory and juxtaposing these archival maps with the present ground study becomes a tool to reveal new meanings and interpretations in understanding the city, beyond what is physical and seen.

The section, *Fractured Realities,* tries to observe some specific contexts of urbanization in the country, in the time span of a century [20th-21st]. *Art Deco Bombay: The Radical Reimagination of the City through its Aesthetics* narrates the development of the port city of Bombay in the early decades of the 20th century by the British. Along with physical reclamation in the southern end, a new urban landscape was conceptualized and a new public realm was reshaped, which resulted in the consolidation of middle class and finance and mercantile. Celebration of public life, anti-gentrification, non-gated communities,

cosmopolitanism, inclusiveness, and acceptance by the citizenry were some of the important values of those times that can be looked at while we plan and improve our existing cities.

The creation of new towns in the post-independence era in the country was to "epitomize the vitality of a newly independent nation". The main ideas were to usher in social equality, justice, and order to counter the asymmetrical effects of Colonial urbanism and reflect "economic growth and social change". *Land[e]scapes of Utopia, Reconciling the ways of living in new towns in India* observes that the new fissures in the planned development didn't allow resolving the socio-spatial inequalities. These challenges remain incomprehensible for city planners to date.

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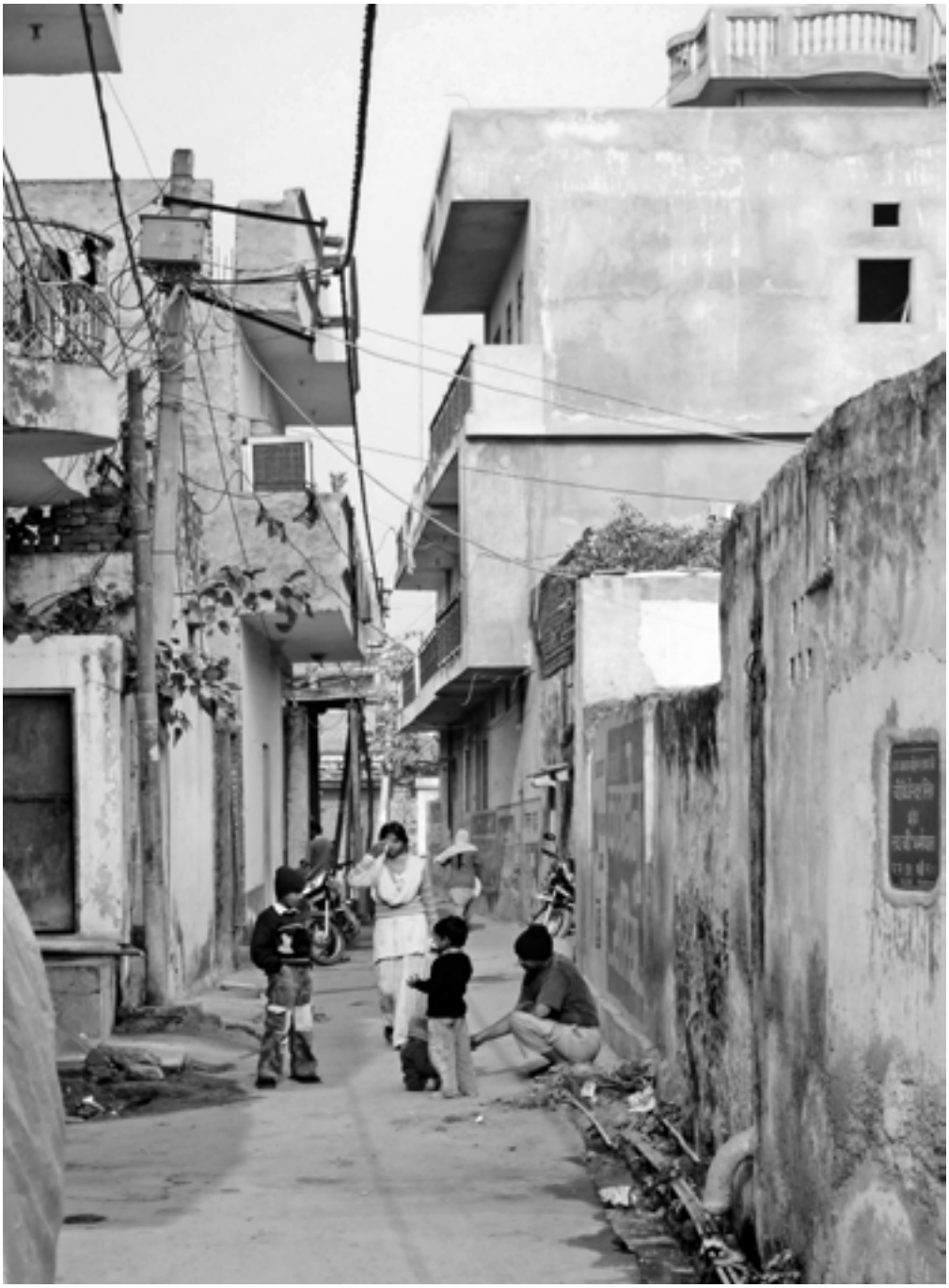
Ruinous Imagination tries to understand the narrative of post-independence urban development in India in two parts. The first belongs to the decades after independence when there was commemoration and expectation, promotion of ideas of modernity, and political zeal to build a young nation as a modern nation with a vibrant public realm. The second part belongs to the post-liberalization of the 90s. It marks the unprecedented scale and pace of development with the supreme role of technology. Another significant change that is observed is a larger and stronger role of the private sector in shaping the urban fabric of the nation. The author observes that there is neither any rationale organization of growth nor the charms of idiosyncratic urbanism. The contemporary urban development scene, with the shrinking public realm, is much fragmented and disjointed with no promotion of civic values.

The section *Material Manifestations* delves on another scale of urbanization while looking at the role of traditional and modern building materials in shaping the character of urbanization in the country.

In *City in Steel and Timber,* CEPT Studio examines the importance of building details in the future design of cities in the context of Climate Change. It studies materials like steel, timber, earth, and bamboo, which have high reuse value to explore more possibilities. The core objectives are to study innovation in construction with aspects of resource utilization, waste, long-term environmental impact, and creating opportunities for artisans. Death of Brick: Rise of the Vertical City defines the long epoch starting from as early as Harrapan Civilization, the trajectory of use in traditional religious architecture, especially in South India. The essay further notes that industrialization, standardization, and the modular concept are some of the reasons that have impacted the use of brick in the contemporary scene, which gradually has lost out to new-age materials of cement and steel.

Advertising RCC: Material Mainstreaming in Pre-independence India captures some of the key moments of the genesis, perception, and use of RCC in published media. Its use by the Public Works Department of the colonial government on a large scale with its ability to resist seismic fluctuations and the start of local production of cement and steel are some of the key factors that led to a widening use of RCC in the Indian subcontinent.



The book promotes the idea of urban discourse as a subject that is enriched by multidisciplinary fields. Besides spatial design, it brings to the forefront knowledge sets from the areas of humanities, social science, economics, environment, and performing arts.

LEFT |
SPONTANEOUS URBANISATION
A street in Aya Nagar, a settlement on the edge of the city of Delhi
PHOTO CREDIT | ***M.N. Ashish Ganju***

The final section, *Potentials and Probabilities* points out to few living contexts where various possibilities of treading on tested realistic paths can be looked into. *Spontaneous Urbanization* brings into focus the segment of informal settlement, which forms more than half of the physical space of any Indian city. It acknowledges it as a new form of urban reality which is visible in historic settlements, unauthorized colonies, urban villages, resettlement colonies, *jhuggi jhopris,* and slums. While quoting an example of a decentralized model of sewage system developed in the urban village of Aya Nagar, New Delhi, the essay proposes a participatory model of development with active roles of professionals, people, politicians, and bureaucrats within the existing policy framework of governance. The idea finds the support from the author of the essay, *Governance of Cities from the 74th Amendment to Special Purpose Vehicles* which looks out for possibilities of better governance while bridging the gap between the needs of the people and the objectives of State planning.

With many contributing academicians and features on studio works of institutions, the book actively promotes the role of academic institutions of art, design, planning, and architecture, to participate and enrich the debate.

Radical City, Imagining Possibilities for the Indian City is a valuable addition to the discourse of Indian urbanization on three accounts. Firstly, it tries to bring out a set of possibilities across all time scales. It points to profound lessons in history, those embedded in the existing urban systems, and at the same time, it cautions planning authorities by critiquing bad practices, and provoke them to look much deeper and in a reflective way to plan the urban future. Secondly, it promotes the idea of urban discourse as a subject that is enriched by multidisciplinary fields. Besides spatial design, it brings to the forefront knowledge sets from the areas of humanities, social science, economics, environment, and performing arts. Finally, with many contributing academicians and features on studio works of institutions, the book actively promotes the role of academic institutions of art, design, planning, and architecture, to participate and enrich the debate. It further bridges the gap between academia and practice, while creating a mutually learning relationship. The background of the Editor belonging to an academic institution reflects in the curation of different sections, bringing a balance between both genres. It is hoped that various discussions in the book will contribute positively to the dialogue of concerned intellectuals and practitioners, whensoever there is a serious discourse on the subject.

DESIGN AND PLANNING

Rajeev Kathpalia, Architect, Urban Designer and Planner
| vsc@sangath.org

PEBBLE IN THE POND

UNIVERSITY CAMPUSES AS CATALYSTS FOR 'SMART' RURAL TRANSFORMATION

By taking examples of educational campuses, the author explores various social and environmental values associates with design and planning in their immediate and larger contexts.

FACING PAGE |
CARE CAMPUS TRICHY
PHOTO CREDIT | ***Mindspace Architects***

Successful Cities are hotspots of culture, knowledge and often drivers of civilization [*The World Cities Culture Forum,* 2015]. They are clusters of human capital that encourage innovation, creativity and exchange of ideas. In general, organically evolved cities have grown around places of water, agriculture, power, places of worship or places of knowledge. A good example of the latter are the famous university towns such as Oxford and Cambridge which continues to flourish around the activities of the universities that they host. Many great cities from history such as Alexandria, Athens, Constantinople, Florence, Rome, Ujjain, Varanasi are examples of cities that have grown from the knowledge economy.

Universities are not just centers for learning, but they are platforms for generating new ideas, trigger innovations and connect people. University towns not only attract the younger generation but also the talented, and the wise, they host conferences, seminars, cultural and sporting events enabling human interaction making the settlements around them potentially a vibrant and attractive place intellectually and culturally.

Many great cities [such as Athens] have grown from the knowledge economy

The phenomenon of Educational campuses becoming a catalyst for urban expansion is well-established [*Martins, and Neto,* 2007, *Haar,* 2011]. The 1968 pictures of the IIM-Ahmedabad [IIM-A] under construction show no signs of the city. It was constructed entirely in isolation. The closest habitation was Vastrapur village. With the city expanding westwards over the river Sabarmati, IIM-A campus today is very much in the heart of Ahmedabad. Some argue that the city's significant growth on the west of Sabarmati was triggered by the new campuses for the Gujarat University and the IIM-A campus [*Gilion,* 1986, *Mahadevia, et.al,* 2014]. This phenomenon of educational campuses becoming a catalyst for urban expansion is true of many famous IITs, IIMs and NIT campuses in India.

1968 pictures of the IIM-Ahmedabad [IIM-A] under construction show no signs of the city

India has seen a significant expansion of higher educational institutions since independence, expanding from 20 to over 993 Universities, 39931 Colleges today and much of this expansion happened since the 1990s. AISHE [*MHRD,* 2019] reports that out of 993 Universities, 385 Universities are privately managed and 394 Universities are located in rural areas.

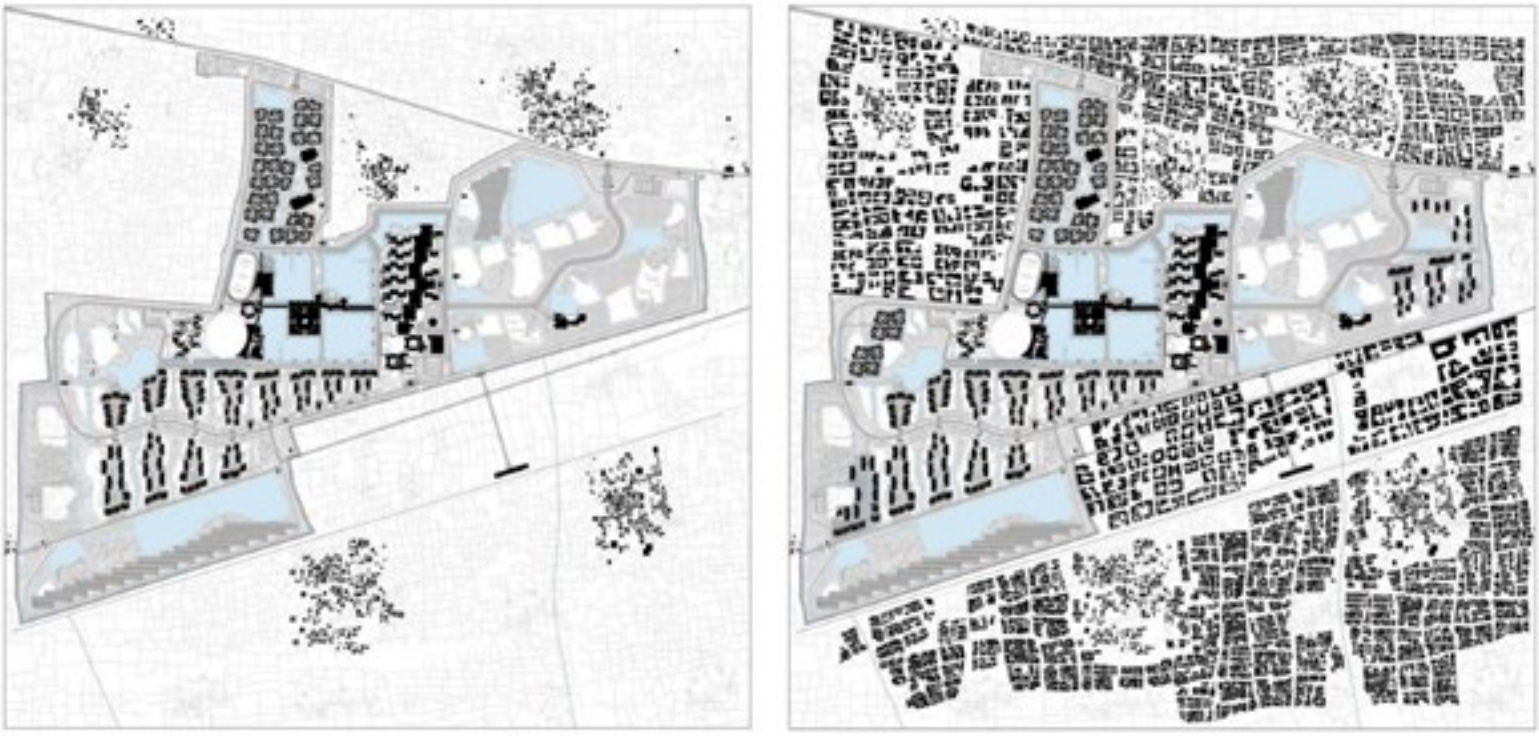
The policies and statutory body [UGC] that governs the quality and infrastructure of universities in India has laid strict guidelines that require them to have between 10 to 20 acres of land for single or a multi campus university [*MHRD,* Undated]. If one looks at these regulations

and the practicality of acquiring large contiguous land parcels in the increasingly complex land economics of our cities, it is hardly surprising why so many campuses end up being in the peri-urban or rural locations in India.

The Government of India has approved several new educational institutions, such as the IITs, IIMs, NITs, Central Universities over the past decade. During this period, the Government has acquired approximately 115 square kilometers of land for about 100 campuses and invested nearly rupees 2.5 lakh crores [maximum funding that successful smart cities received was about 2000 crores]. This total amount is equal to the annual operating budget of all the top 50 municipal corporations of Indian cities. These institutions very often had 100-500 acres residential campuses with a population of 2,500 to 35,000 persons, usually located close to an existing town or city. If one adds the population of the surrounding villages to these campuses, they are in essence small towns. These prestigious institutions are set in sprawling campuses with very high-quality infrastructure. Some of them are so spread out that they required bicycles or other vehicles to move within them.

Peri-urban campus developments have often resulted in disorganized and ad-hoc land speculation and transformation from rural to urban. An urban development authority or Municipality that gets established has often to catch up and initiate more organized planning processes. But by then, the damage is done, with speculative developers dictating the landscape, the opportunity to achieve smart, interconnected, sustainable and participatory development is lost. It is also worth noting that the rural to urban social and economic transformation of the populations and natural systems is very traumatic and deeply disabling to its inhabitants.

The proliferation of campuses in the form of gated and walled campuses in India has undoubtedly reduced the social, spatial and intellectual benefits that these institutions can bring to their host cities and towns. While some may argue for a more compact development with more efficient use of land, it is evident that these campuses provide more than just classrooms. They provide a sanctuary that stimulates physical and mental spaces for the intellectual, physical and spiritual growth of its residents. It is therefore sad that their high-quality sports and recreational facilities and the learning facilities such as labs, workshops and libraries remain exclusive and their highly skilled and knowledgeable workforce remains disconnected from the towns and cities. Such campuses, do not benefit the neighbouring communities



Peri-urban campus developments have often resulted in disorganized and ad-hoc land speculation and transformation from rural to urban. With speculative developers dictating the landscape, the opportunity to achieve smart, interconnected, sustainable and participatory development is mostly lost.

by their intellectual capital, social amenities, nor their open spaces. By removing walls and gates they can help create opportunities for the wider community to access its social amenities, to take short cuts, and slowly to develop trust, engagement and participation in the campus.

The ATIRA campus and the Sardar Patel Institute in Ahmedabad with their open campuses do allow "morning walkers" access to their grounds, providing valuable green spaces in a city that desperately needs more of them.

Social encounters are found to be important for social interaction, to develop trust and therefore social capital [*Raman,* 2010]. Moreover, serendipitous encounters facilitate informal learning. Low rise, high density built environments with better physical and visual connectivity than high rise buildings have been found to be facilitating wider social interactions [*Raman,* 2010]. Besides, these gated campuses can also become a physical barrier disconnecting parts of the city by restricting the pedestrian and/or vehicles through the campus. It is not surprising that such out of town walled campuses developed through government funding or by the private sector are often socially isolated and intellectually insular. This of course results in the campus and the town not benefitting from each other.

While these exclusivities are often marketed by the private promoters, it is evident that such disconnectedness can create social issues and bitterness between the local and campus population. Moreover, it can be seen as a missed opportunity for the educational campus to contribute positively towards social, ecological and intellectual development of the area, like the famous universities around the world: founded, formed and nurtured the towns and cities they belong to.

Since independence, much of the focus on development in India has been on rural development and it is only in the last few decades that funding opportunities like JNNURM and Smart City Mission started funding urban development projects. Without a clear definition focus of many smart city projects in India, like in many other parts of the world, it has been on retrofitting the city with sensors and infrastructure for analytics to make the city more efficient. Schemes and projects usually ignore the smartest thing in the city – its people. In the name of efficiency, they have lost intellectual directions and characteristics that promote social welfare, ecological diversity and the redundancies and complexities that made cities charming, vibrant and live able. However, a smart and poetic mixing of investment in education with development funding could see cities that are smarter by clustering smart people, developing innovations and business, an ecosystem and social entrepreneurship that coexist and complement each other. Cities that are knowledge economies that bring cascading social, economic and ecological benefits to the communities and region it belongs.

Principles of an integrated campus

Based on our academic and design research over 40 years of we have developed a set of principles to enable educational campuses in India to become a social, intellectual and ecological catalyst for a smarter human settlement. These principles include:

Connectedness: Addressing the issues of insularity by connecting campus social, physical, intellectual social with its surroundings. Avoid gated and walled Campus to allow people and their ideas as well as the ecosystem to move freely through.

Systems thinking: Campus infrastructure to be designed as part of wider contextual systems [intellectual, social, spatial, ecological, sustainable] to create interconnected systems and complementarity.

Partnership: Campus should promote partnerships, between residents and surrounding communities, between people and ecology, between creativity and rigour, between global challenges and local solutions. The spaces within the campus act as an enabler of these partnerships and the type and nature of the partnerships depends on the location, focus and resources of the campus.

Shared resources and participation: Campuses must share their physical and intellectual resources to forge a new partnership between local and global elements of the systems - people, ecological, financial, intellectual etc.

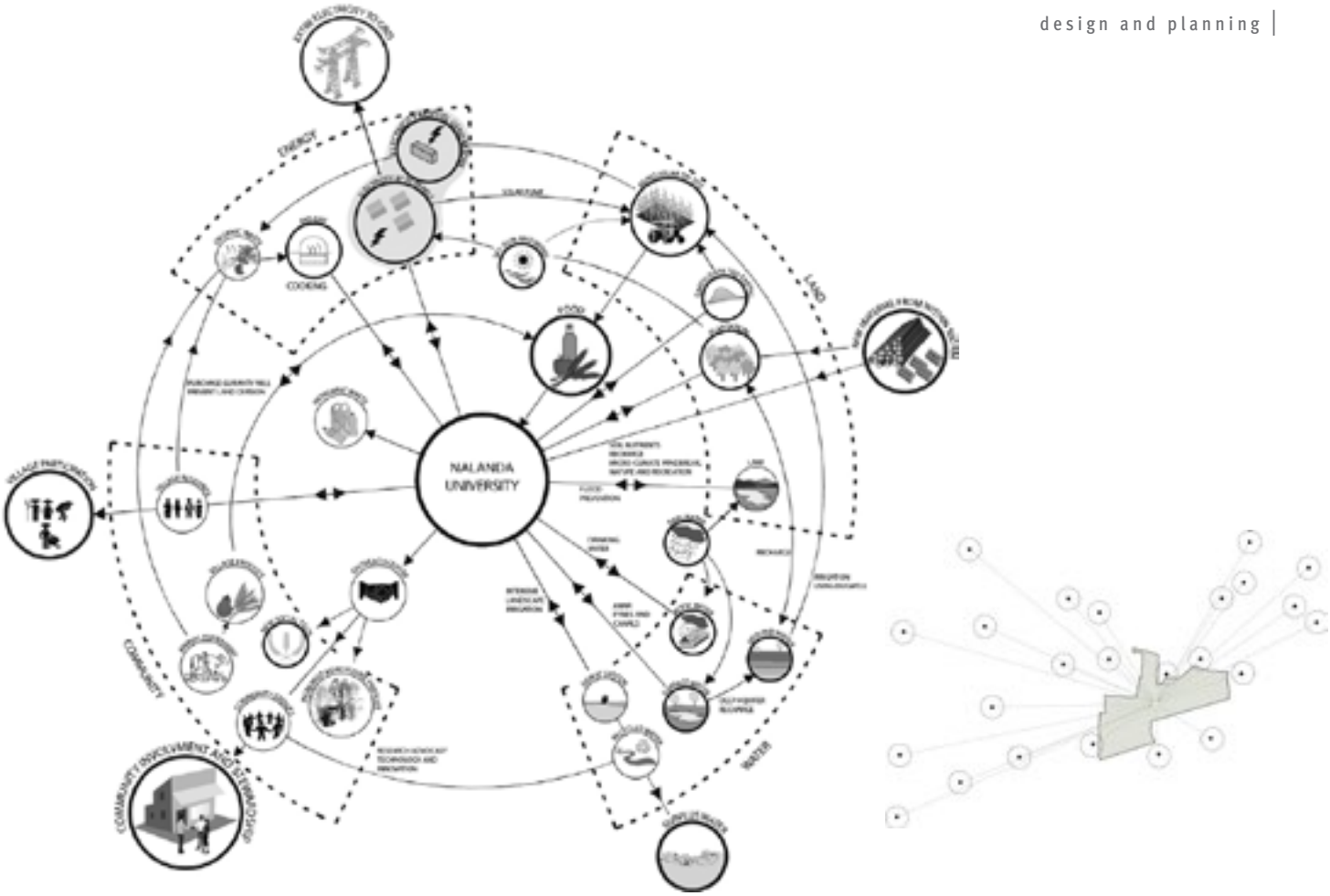
Renewables/ passive/ sustainable: Responding to climate emergencies and other global challenges that threaten life on earth, campus and its design should be an exemplar of renewable energy sources, passive technology and achieving long term sustainability.

Nalanda University

Nalanda University is an attempt to bring the principles that evolved over a long period to fruition. Generative principles that define the master plan include integration of campus ecological integration with nature, diverse land uses, permeability to connect the campus with neighbours, a dense and compact campus that preserves land, cohesive and humane scale architectural language compatible with local land subdivisions. The 455-acre campus is planned for an eventual population of 7000, with three primary land-uses: the academic facilities, student/ staff housing, and an area for advancing agriculture as a future economic engine for the region and community.

A lake forms the epicenter of the campus evoking memories of a historic settlement. Analytical terrain modeling and the flooding pattern of the area resulted in the idea of a manmade lake and a network of storm water channels. The different programmes of the campus are clustered around this lake. All the buildings are positioned along with the water networks, creating a generative system that can grow incrementally and the clusters to grow independently. A vibrant structure of public spaces and diverse programs and sustainable infrastructure create a high-quality environment that aims to be a zero-energy campus. Through spatial and ecological permeability, the campus plan accentuates the existing physically, socially and ecologically connections with the surrounding villages.

In conceptualizing our proposal for the campus in the global competition, it was obvious that there is an opportunity to combine the ideas and principles to develop a more integrated campus that becomes a catalyst of transformation for Rajgir and its ecosystems. By poetically combining the agenda of smart growth with the current and future development of the university campus, the design can indeed become the veritable “pebble in the pond” transforming Rajgir through its ripples. Through these ripples a smart rural transformation that can achieve integration and connectedness like other vibrant contemporary university towns and resonate the philosophical and intellectual positions of the original Nalanda University.



NALANDA UNIVERSITY
RESOURCE SYMBIOSIS DIAGRAM
An opportunity to combine the ideas and principles to develop a more integrated campus that becomes a catalyst of transformation for Rajgir and its ecosystems

By conceptualizing the campus as an important node of a great future knowledge-based city, the design of the campus is intertwined with city-building. The imagined campus, therefore, will eventually have no barrier, fences or gates making it an anchor of our future "smart cities". The complex engages with its surrounding communities through open campus ensuring sustainable ecological, social and economic links, embracing the principles of partnerships and connectedness. A significant part of the campus is reserved for the R&D of modern agriculture practices and biotechnology.

Sustainable practices are at the very core of every aspect and phase of the campus development plan, from site planning to the creation of its infrastructure, cost-effective ways to both reduce consumption and dependency on non-renewable and off-site resources for its construction and its everyday use. The incremental growth of the campus is planned to provide flexibility and time for rethinking, preserving the agricultural and environmental systems of the region.

Thinking on the larger social, ecological and physical systems of the site as well as responding to our sustainability goals, the whole campus development plan aims to combine state-of-the-art technologies with planning principles to create a carbon-neutral and zero-waste campus for Nalanda University.

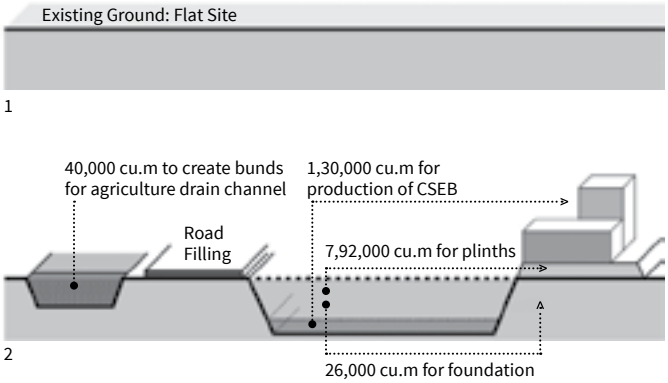
The water features on campus are part of the wider water and ecological systems essential to rainwater harvesting and groundwater recharge. The earth from the excavation of the lakes and other water features is used for producing compressed stabilized earth blocks for the buildings. In addition to these principles, there is a whole palette of ideas operating at different scales, from the scale of building, to cluster, to the whole campus. The ideas include passive cooling systems, landscaping with native plants that also combat air pollution and create a comfortable microclimate around the water bodies – creating spaces for reflection, debate and solace.

The wastes collected from within the site and neighboring villages are used to generate biogas and electricity with combined heat and power engines [CHP]. This and the solar panels provide energy requirement for its cooling, ventilation and electrical requirement of the campus throughout the year.

NALANDA UNIVERSITY

SITE

The campus engages with its surrounding communities to ensure sustainable ecological, social and economic links, embracing the principles of partnerships and connectedness. A significant part of the campus is reserved for the R&D of modern agriculture practices and biotechnology.



Excavated earth from the lakes and other water features is used for producing compressed stabilized earth blocks for the buildings.

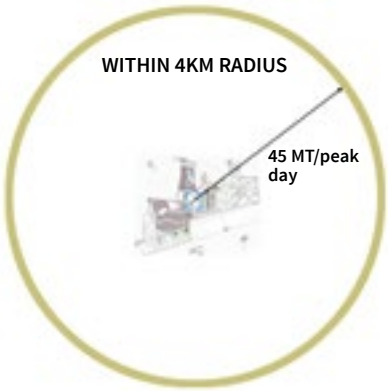
WATER NETWORK

The water features on campus are part of the wider water and ecological systems essential to rainwater harvesting and groundwater recharge.

- **40 Hec. Water Bodies, 22%**
- **80% Recycled**

LEGEND

- ELEVATED SERVICE RESERVOIR
- UG DRINKING WATER TANK
- SEWAGE TREATMENT PLANT



NALANDA STATISTICS PER DAY

1000 people/sqkm = 230 kg/sqkm
100 buffalo/sqkm = 3000 kg/sqkm
200 bovine/sqkm = 9000 kg/sqkm
100 goats/sqkm = 400 kg/sqkm
50 chickens/sqkm = 5 kg/sqkm
10 pigs/sqkm = 60 kg/sqkm

Approximately 12700 kg/sqkm

6 Bn kWh/year
Approximately all of Bihar through 85% is w/o electricity
93 kWh/person vs 600 India vs 11000 Chicago

HIGH-TECH VERSUS COW-TECH

600 Cr
Only storage

<20 Cr
Cows+Digester

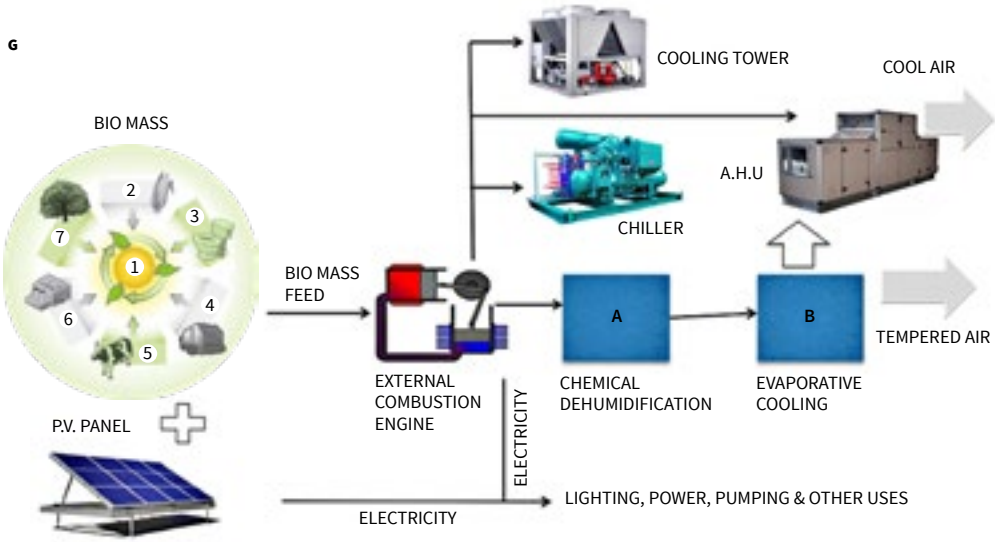
ENERGY

Wastes collection from within the site and neighboring villages are used to generate biogas and electricity with combined heat and power engines. This and the solar panels provide energy requirement for its cooling, ventilation and electrical requirement of the campus throughout the year.

AIR-CONDITIONING

DEVAP Approach
- No Duplication of High Side
- Heat is used for cooling
- Lowest per unit cost

1. *Biomass Sources*
2. *Agricultural Crops & Residues*
3. *Sewage*
4. *Municipal Solid Waste*
5. *Animal Residues*
6. *Industrial Residues*
7. *Forestry Crops & Residues*



Thus, Nalanda campus has been conceptualised as a template of future campuses, a global leader in the field of education, providing intellectual excellence, connecting people and ecology, achieving an integrated landscape. The spatial plan and its architecture as a space to think, experiment and attract global discourse for adopting sustainable methods to achieve social and economic integration with local communities. A template for campuses that promote the spirit of Nalanda that endured in its relevance for 800 years by embracing environmental strategies that are simple, efficient, and appropriate to the place.

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Sandip Patil, Landscape Architect
| sandip@earthscapes.in

TIMELESS FLUX

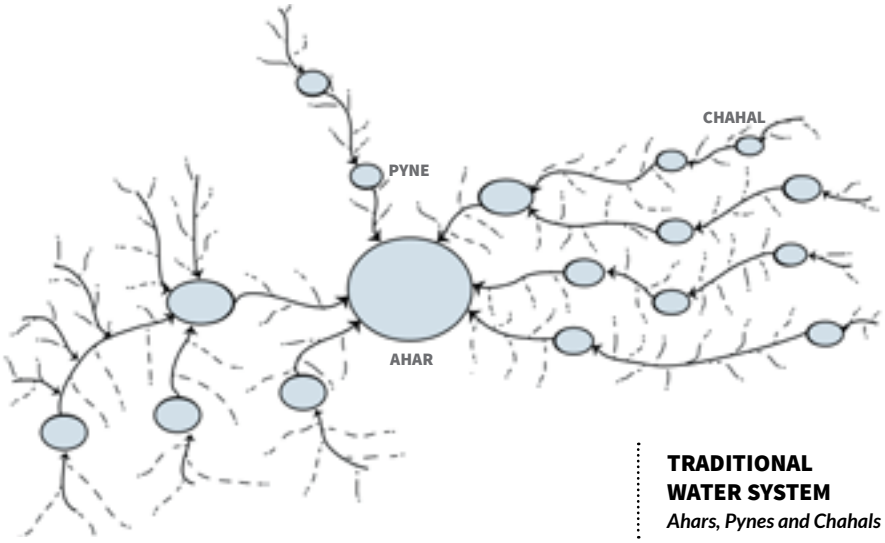
IMBIBING LAND RITUALS INTO AN EDUCATIONAL CAMPUS

Taking inspiration from the regional landscape structure, especially the water conservation systems, the educational campus in the arid region attempts to create a framework of nature conservation – water and vegetation – integrated with its design program.

Nalanda University lies in a rich ecosystem developed on the Gangetic flood plains and dominated by hot-humid climate, alluvial geology, rich clayey soils, high groundwater table, flat terrain and subtropical dry deciduous forests. Institutions in this region have a history of successful co-existential relationships with the surrounding human and the natural environment, which have resulted in a vibrant cultural heritage. Human society is overwhelmingly agrarian with a long history of smaller administrative units supporting a group of villages. The landscape master plan intends to act as a steward to its region of influence through a comprehensive program encompassing ecology, community and culture.

The site is an agricultural land on the outskirts of the town of Rajgir. One can observe centuries of agricultural rituals moulding the site's structure – a flood-prone area consisting of an intricate water system of *"ahars, pynes* and *chahals"* that move water as well as percolate it. The University was very clear that the soul of Nalanda must not be lost. Hence, it was decided early on to work closely with the datum line and complement the regional landscape structure.

Nalanda University is imagined as a set of great mudplinths arising out of a fluctuating water body in a fluid terrain, carved to create introspective spaces and clustered to generate dialogue. This great vista is set in a rustic traditional landscape generated by large swathes of agrarian landscape, woodlands as well as low-lying areas that seem to blend into one another seamlessly; and the entire landscape is overlaid with a series of man-made swales that direct rainwater to embankment reservoirs. As one enters the



TRADITIONAL WATER SYSTEM
Ahars, Pynes and Chahals

University, one travels through densely shaded plantations of mangoes, sal and dense bamboo clusters, with water lilies, birds and small animals abounding in shallow waterholes formed in the rainwater swales, crossing them through rough wooden bridges, stepping over stone paths raised over the viscous soils. One treads with care over these obstacles, while being deeply immersed in nature before reaching the University.

The masterplan framework developed is simple yet spatially powerful. Kamal Sagar – a square water body, 400 metres in each direction, is the heart of the campus, while academic buildings, recreational area, student hostels and faculty cum staff housing are arranged around it. Kamal Sagar acts as the central congregation area, with the library, amphitheatre, meeting spaces as well as civic amenities at its centre and periphery. Kamal Sagar also holds and supplies the annual water requirement of the campus. The centrally situated water source strongly imprints awareness of resource dynamics and its management into the young minds being moulded here.

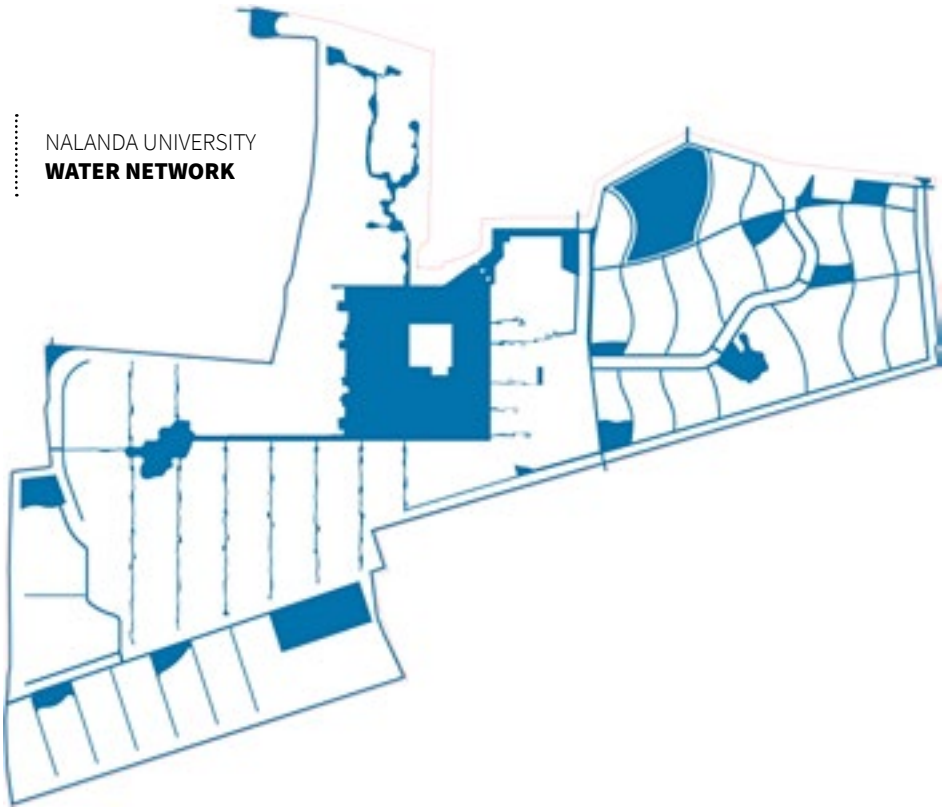
The entire built campus is restricted to thirty per cent of the site area, the remaining being given to ecosystem conservation. The prime element of landscape infrastructure is the *ahar-pyne-chahal* system, whose integration with regional networks shall ensure water security leading to a productive ecosystem. *Ahars* are deep ponds or embanked retention areas, *pynes* are channels that connect the *ahars* and *chahals* are smaller depressions that hold water along the *pynes.* This system channels, collects, stores and recharges rainwater for subsequent use throughout the year. It is reinforced with edge plantation for shade, wind-break and micro-climate normalization as well as fostering small wildlife habitats and corridors along water channels. The flexibility of the system allows water bodies to transform from ponds and canals in the monsoon into wetlands in summer.

NALANDA UNIVERSITY

MASTER PLAN: ZONING

MASTER PLAN: LANDSCAPE

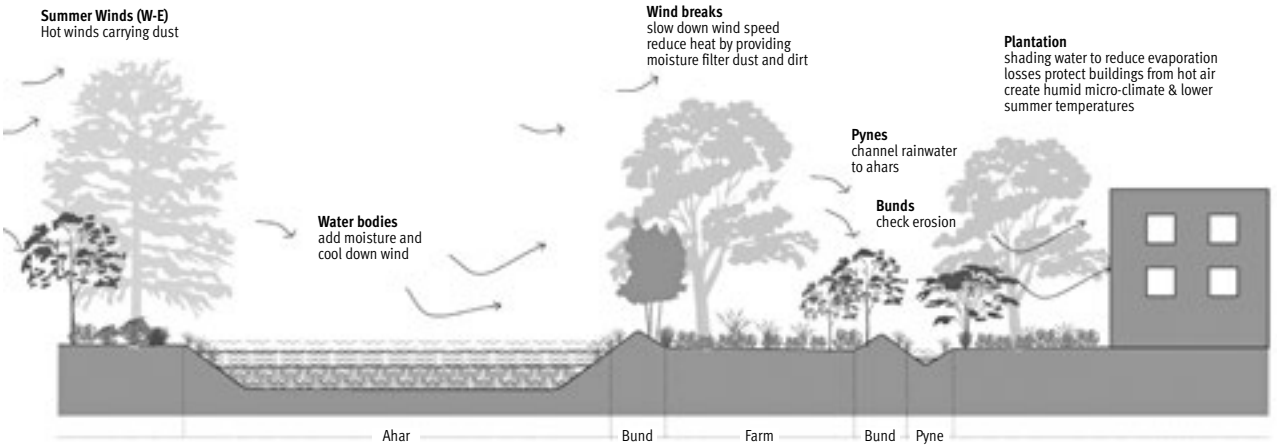
Integrating natural processes



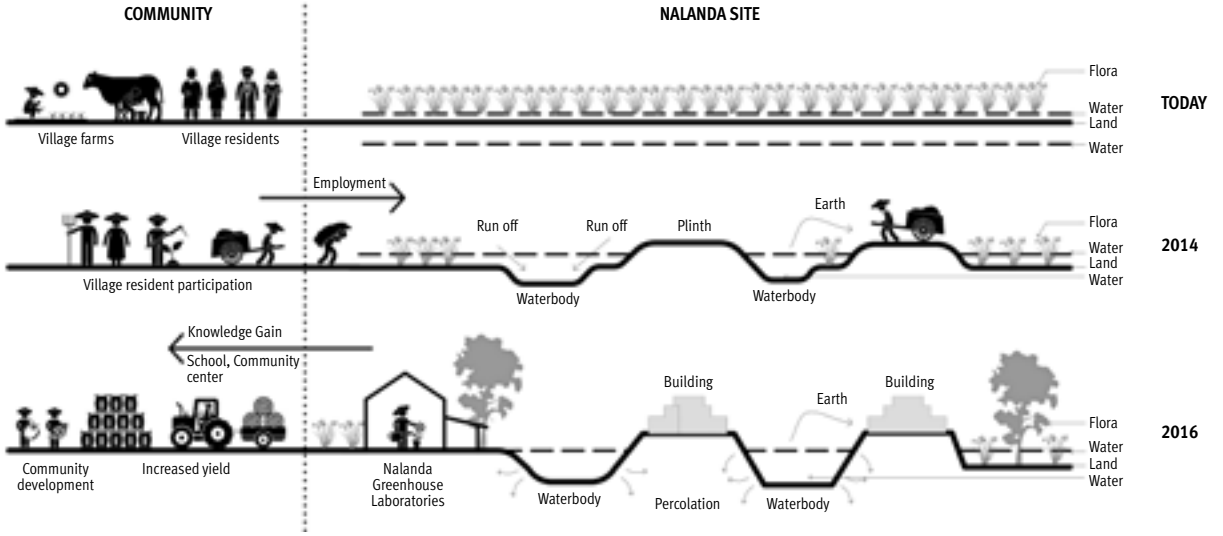
NALANDA UNIVERSITY
WATER NETWORK

Runoff from rooftops shall be stored in underground tanks for drinking purpose, while runoff from all other surfaces in built areas shall assimilate in Kamal Sagar and its balancing tanks via a system of open and piped drains. Runoff in the remaining part of the site shall be assimilated in *ahars* for storage and percolation. Water from Kamal Sagar and balancing tanks shall be used for domestic demands, while water in *ahars* shall be used for irrigating plantation and experimental agriculture farms. Wastewater from domestic uses shall be treated via a decentralized wastewater treatment system [DEWATS] and used for irrigation of intense landscape around built areas. The system aims to establish an annual ritual for de-silting, cleaning, storage and judicious use of water.

Building upon this water-intensive structure, the eastern campus is proposed to be a mix of woodlands, orchards and experimental farms. An outreach centre in the middle of this area shall promote local knowledge documentation and dissemination combined with contemporary technologies. The landscape is proposed to be used as a live laboratory to document, experiment and enhance local natural rhythms. The laboratory will be used by students and researchers to explore suitable contemporary agrarian processes for the region.



BUILDING-LANDSCAPE RELATIONSHIP

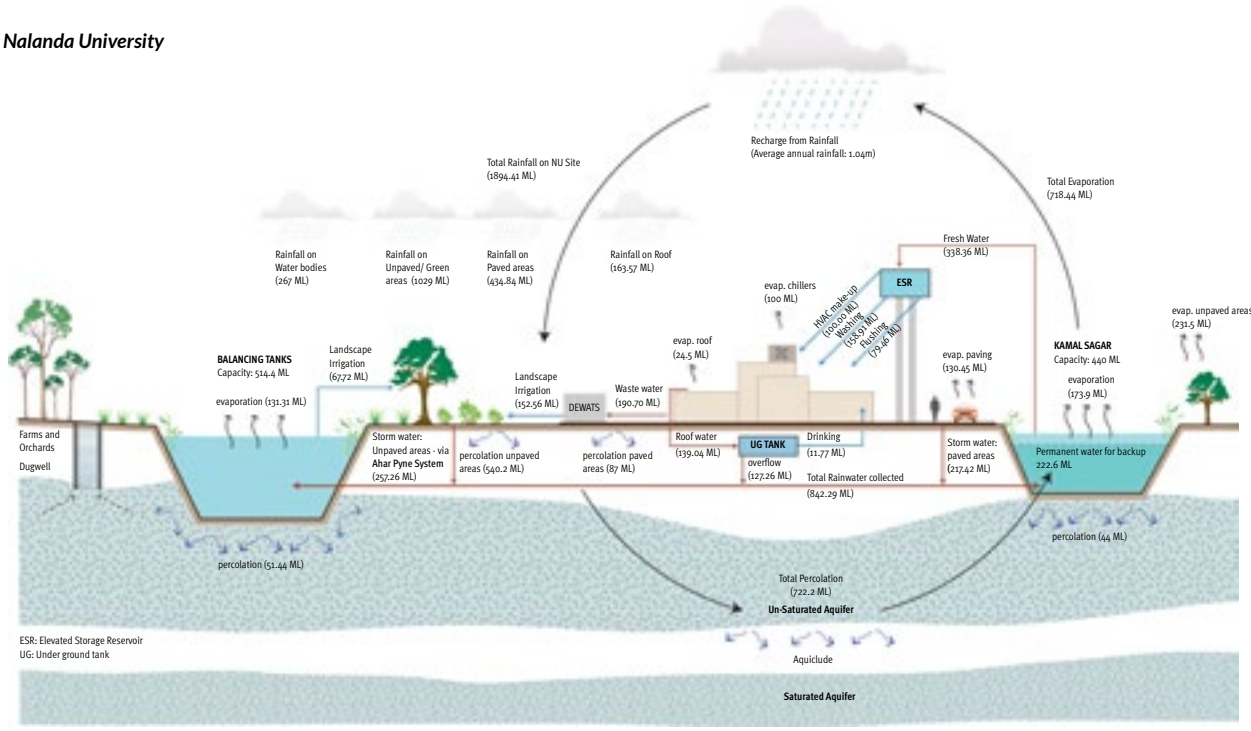


SOCIAL RITUALS

Establishing social rituals across the site

WATER CYCLE

Proposed water cycle for Nalanda University



VIEW
View from Student Hostels towards Kamal Sagar
Courtesy: Vastu-Shilpa Consultants

Presently, the water infrastructure of the site is established and being tested in each monsoon. While the expansive services infrastructure and building construction progresses, the eastern part of the campus is being planted intensively to develop the woodlands and orchards. One hopes that the landscape structure will have achieved resilience and established itself by the time the campus comes to life.

PROJECT SNAPSHOT

PROJECT: **Master Plan for Nalanda University**
LOCATION: **Rajgir, Bihar**
SITE AREA: **455 acres**
CLIENT: **Nalanda University**
PRINCIPAL ARCHITECT AND MASTER PLANNER: **Vastu-Shilpa Consultants, Ahmedabad**
MASTER PLAN LANDSCAPE ARCHITECT: **Earthscapes Consultancy Pvt. Ltd. , Ahmedabad**
DETAIL DESIGN LANDSCAPE ARCHITECT: **M/s Prabhakar B Bhagwat , Ahmedabad**
STRUCTURAL CONSULTANT: **Vinod Shah Consulting Engineers Pvt. Ltd., Ahmedabad**
MASTER PLAN MEPF CONSULTANT**: dbHMS, Noida**
PROJECT DURATION: **2012–Ongoing**

Drawings and images courtesy of Earthscapes Consultancy Pvt. Ltd.

Mindspace Architects, Bengaluru
| info@mindspacearchitects.com

BRINGING *in* NATURE

CARE CAMPUS | TRICHY

The design of the institute located in a historic town adopts a layered approach inspired by the religious precincts while addressing various contemporary needs of blurring boundaries between disciplines.

The site for CARE [Centre for Applied Research and Education] campus is a 50-acre parcel of land with a lake on the northern side. The natural decision was to position the building adjacent to the water and further growth of the master plan followed the site's contours.

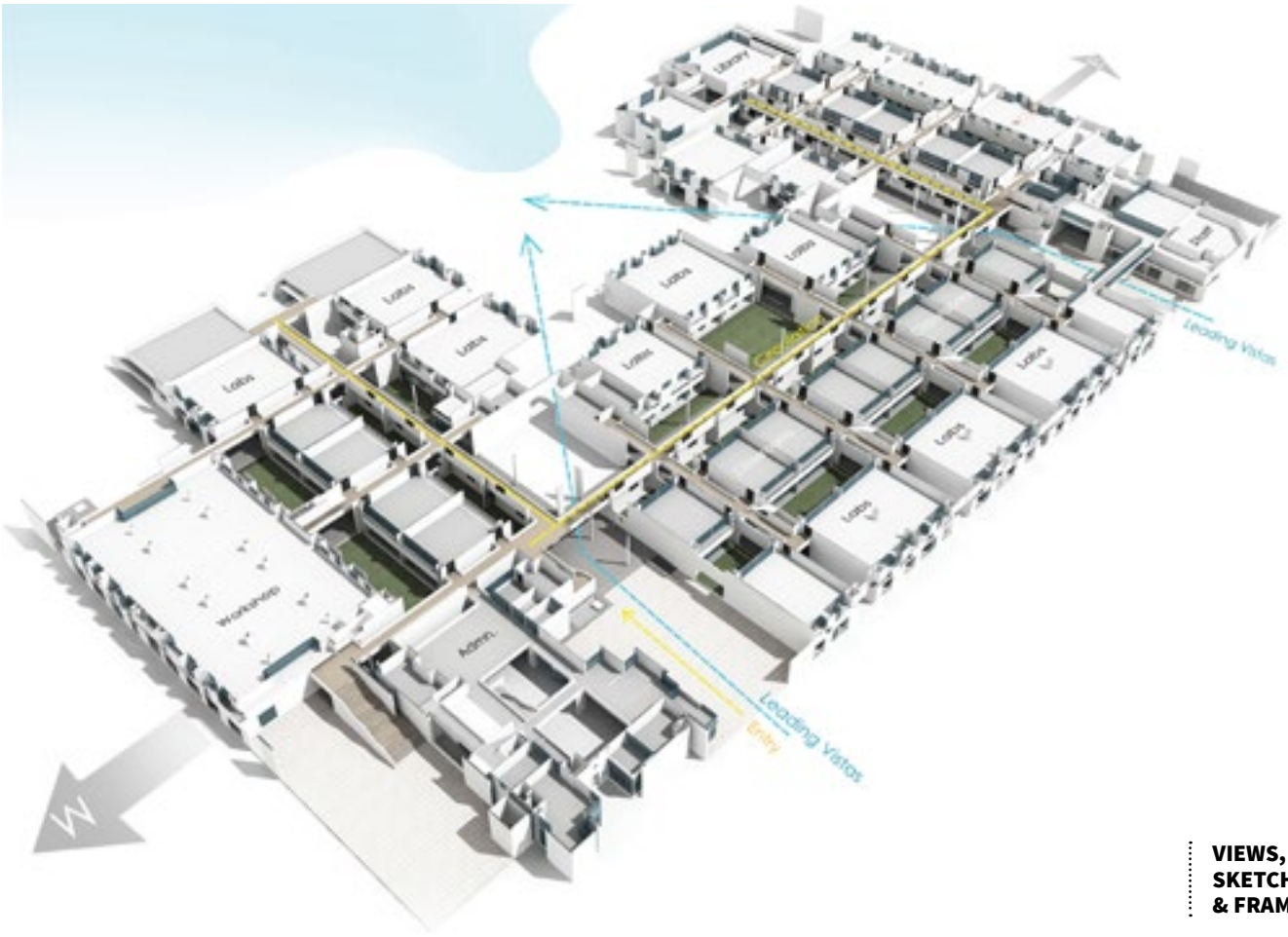
Trichy [Tiruchirappalli], being a historical temple town, the layered plan of Srirangam temple is taken as a reference and part of initial imagery while designing. There is a sense of discovery when one proceeds from the noisy, outer layers to the purer, more spiritual core, before finally reaching the inner golden shrine. The idea corresponds well with the idea of a school.

A water court forms the center of the plan, from which various layers would spread out. The court is visually connected to the lake recalling the imagery of a temple tank where the buildings around become a "viewing gallery" for the 'performance'. The main court, punctuated by platforms and tree-bearing planters becomes a large plaza for interaction and social engagement. Instead of creating separate buildings for each engineering discipline, different departments are positioned along the main spine, using creative synergy between them to interact, share

knowledge, and blur inter-disciplinary boundaries. The core facilities of the institute are located at the heart of the building. The next layer comprises a series of classrooms with no walls are bounded on either side by open-to-sky courtyards, which act as outdoor usable spaces.

The final layer houses the labs and workshops for different departments with their extensive mechanical services. A grid of longitudinal and transverse corridors connects these departments, offering flexibility to each lab to adjust the size to the need of an adjoining facility. The shared facilities such as the cafeteria and library are placed on the periphery and at the end of two main axes in the building and on the edge of the water.

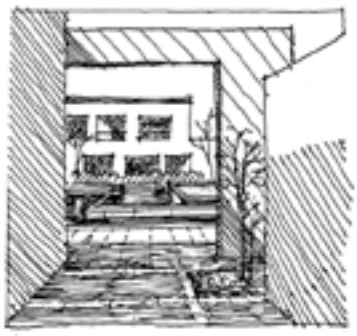
CONCEPTUAL SKETCH



VIEWS, SKETCHES & FRAMES

SEMI-CURVED ENTRY GATE

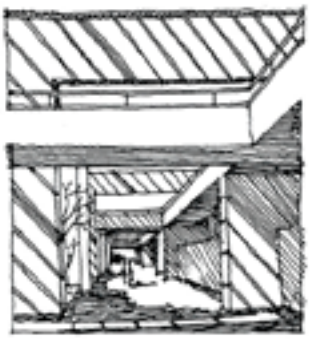
DOUBLE HEIGHT ENTRANCE LOBBY



BAMBOO COURT

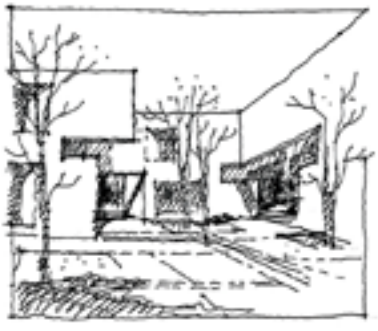
CORRIDOR PASSAGE

GREEN COURT AROUND WATERBODY



PLAY OF LIGHT & SHADOWS

LINEAR PASSAGE WITH SEQUENCE OF FRAMES



VIEW FROM CENTRAL COURT

SRIRANGAM TEMPLE

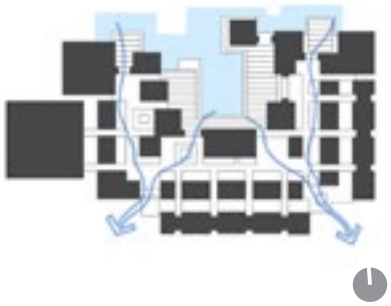
LAYERING

The units of the building adopts the layering pattern is based on Srirangam Temple movement of the visitor from the outer noisy world cutting across the different layers up to the inner tranquillity, the deity.

VISTAS INTO THE LAKE

VIEWS & VISTAS

The porous plan offers various framed views of water body and lake from different points along the path, unveiling and expanding the whole space



BREEZE INTO THE CAMPUS

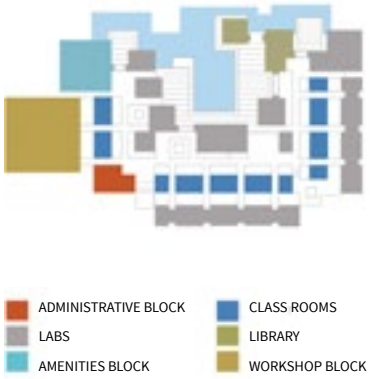
VENTILATION

Plan opens up to bring in the cool breeze from the lake right through the structure, thus integrating nature as part of the building. Here ,this symbol of purity and calmness is symbolised by the central water body.

COURTS & COURTYARDS

LAKE AND BUILT

Relationship is established with the larger lake by bringing in water bodies and greenery right into the heart of the building. The lake area adjacent to the building is desilted to bring water close to the building.



ZONING LAYOUT

UNIT AND THE WHOLE

Different departments which form an entity by themselves are connected with overall sharing the common activities. The hierarchy of the different facilities in their relative distance tightly follows their relative importance with the core facilities concentrated in the centre, labs and workshop towards outside.

ORIENTATION

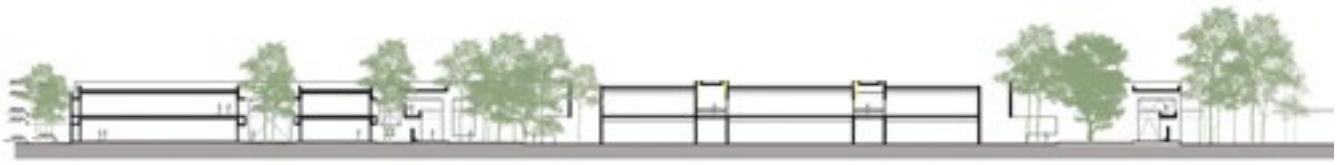
Building is oriented predominantly in the North-South direction with the workshop forming the buffer from the western sun.

The shared facilities such as the cafeteria and library are placed on the periphery also edging the water, and at the end of two main axes in the building.

Hierarchy of different facilities is explored through transition spaces to gain interaction between students.

CONCEPT

PLAN



SECTION

LANDSCAPE PLANNING

HARMONY WITH NATURE

In the campus, there is an attempt to seek a design solution that converses with nature. In this process of integrating nature with architecture, an attempt is made to open up spaces. Relationship is established with the existing lake by bringing in water bodies and greenery into the heart of the building. The transition between the exterior and the interiors is worked out in such a way that one doesn't realize where one ends and the other begins. Transitional spaces merge with the circulation spine of the building thus expanding into more defined activity spaces and finally opening up as community space for the students.

THIS & FACING PAGE |

THE LAKE & THE WATER COURT

The campus opens up to the desilted lake and incorporate nature as an integral part of the architecture. This is further enhanced by bringing in water bodies and greenery right into the heart of the building. The water court forms the nucleus of the campus. Visually connected to the lake, the space recalls the imagery of a temple tank where the buildings around become a "viewing gallery" for the 'performance'. Punctuated by platforms and tree-bearing planters, the court becomes an active plaza for interaction and social engagement.

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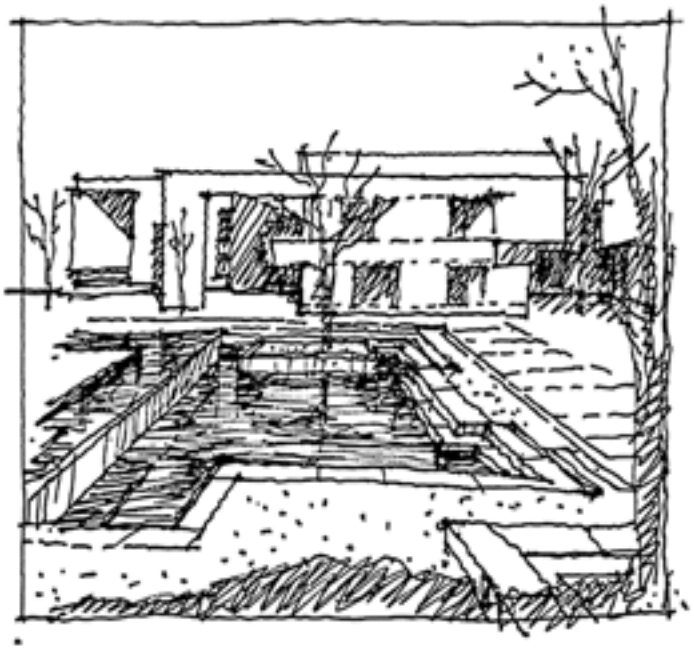
VIEWS
Campus corridor passages and courts



RIGHT & BELOW |
CENTRAL WATER COURT

PROJECT SNAPSHOT

PROJECT: **Care Campus, Trichy**
TOTAL SITE AREA: **50 Acres**
BUILT-UP AREA: **31200 Sq.mts**
CLIENT: **G. Nararyanan Educational Trust [GNET]**
ARCHITECTS: **Mindspace Architects, Bengaluru**
ARCHITECTURAL DESIGN TEAM:
Sanjay Mohe, Adwitha Suvarna, Arun Kumar
CONSULTANTS
LANDSCAPE DESIGN: **Design Milieu, Bengaluru**
STRUCTURAL: **S&S Associates, Bengaluru**
ELECTRICAL& PLUMBING: **Design Tree , Bengaluru**
CIVIL CONTRACTOR: **Tavas Consructions Pvt. Ltd., Chennai**
PROJECT COST: **INR 45.00 Crores**
TIME PERIOD: **2009–2012**

Drawings and images courtesy of Mindspace Architects, Bengaluru

Vinod Gupta, Architect
| vinod@space-design.com

RESPONSIVE DESIGN

NIIT UNIVERSITY | NEEMRANA, RAJASTHAN

With a desert climate, highly eroded landscape and absence of an infrastructure in terms of water supply and sewerage system, building a university campus at Neemrana in the state of Rajasthan, for a population of 7500 students on a small site, located right at the edge of Thar desert was a challenge. The feature discusses various strategies adopted, both in architecture and landscape design, to make it a sustainable campus.

Context

The sandy site, next to the foothills of Aravali Range, midway between Delhi and Jaipur, had been deeply eroded by the annual runoff gushing from the hills. The climate is typical for the desert with extreme temperatures, both in summers [accompanied by hot dusty winds] and winters. During monsoons, the humidity can be as high as 85%. The general dust level is high, because of the levelling of land in the neighbourhood. Rain and groundwater are the two main sources of water. The area lying between the site and the hill is barren land where no development is permitted. The design brief was to have a University with world-class facilities offering undergraduate, postgraduate and research programmes in different disciplines.

A Sustainable Campus

The main objective of the development was to use available resources to create a comfortable, healthy and interactive educational campus, to address off-site and on-site environmental issues and develop a prototype for future developments in the region and hence to apply the concept of environmental and economic sustainability as the major determinants for design.

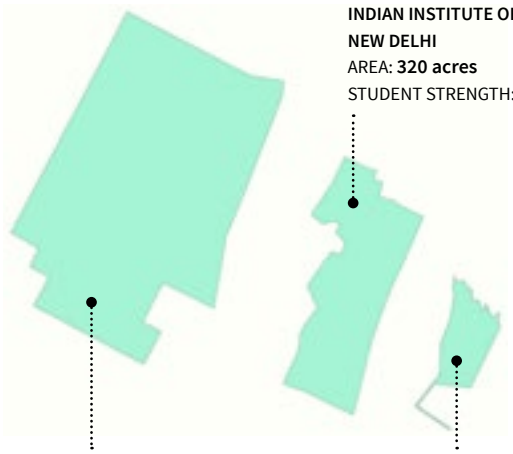
YRM [London] created the first master plan for 3000 students on the 100-acre site. It was based upon the carrying capacity of site for available water from harvested rainwater. The number of students was not considered financially viable by the University. The final master plan was developed jointly by YRM and **Space Design Consultants** for 75 acres land and 7500 students after hydro-geological studies established greater potential for harvesting rainwater from the nearby Aravali hills. **Mohammed Shaheer** joined the team during the second master planning exercise, helped establish a method for conserving water for landscaping. He and his team continued with landscape development long after our work as master planners and architects of the first phase buildings was over.

SITE
Sandy and deeply eroded by the annual runoff gushing from the hills

Various strategies of the environmental management plan adopted on a macro scale included stopping illegal extraction and mining of stone from the adjoining hills, tree plantation on the eroded hillside, check dams to harvest rainwater and prevent soil erosion. Within the site, natural levels were maintained to minimize cut and fill, natural depressions and low lying areas were used for various activities like amphitheatres and sports arena. Within the campus, the practices adopted, include, efficient use of water and energy, preservation of natural features of land, treatment and reuse wastewater, use of solar water heating, use of recycled building materials and management of solid waste.

The site lies over a bowl-shaped underground formation that can provide a sustainable source of water. The hydrological survey showed that rainwater from the hills comes to the site through surface drainage channels and through sub-soil flows. Existing water courses on the site were maintained for drainage and rainwater harvesting. During the dry season, the same spaces are used for outdoor activities. This promotes the idea of water conservation amongst the resident population and through treatment and reuse of wastewater, the project draws no more water than the annual recharge. Water and energy-saving comfort cooling system and water-saving toilet fixtures are also being used. Treated water from STP is utilized for flushing toilets and for irrigation reducing the requirement of freshwater to about half.

The biotechnology department of the University has started a project of greening the hillside beyond the site boundary. Native plant species that require less water have been planted, a move away from a resource-consuming 'beautiful landscape' to a more contextual landscape that the site can support.



INDIAN INSTITUTE OF TECHNOLOGY
NEW DELHI
AREA: **320 acres**
STUDENT STRENGTH: **5000**

JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI
AREA: **1000 acres**
STUDENT STRENGTH: **5500**

TNI NEEMRANA
AREA: **75 acres**
STUDENT STRENGTH: **7500**

AREA & DENSITY COMPARISON

"Taking inspiration from a traditional Indian desert city, the campus has been designed as a compact, dense development which supports a larger population on a small area of land. It is planned to house 7500 students [5000 resident students] and 500 staff families on an area of 75 acres which makes it 6 times as dense as IIT Delhi and 18 times as dense as JNU Delhi. The tight site layout responds in a much better way to the harsh desert climate and allows the resources to be utilized more efficiently with the less developed area."

Climate-responsive Design

Traditional built forms and contemporary thinking about climate-sensitive and resource-conserving design have inspired the architectural design of various buildings in the campus.

Orientation

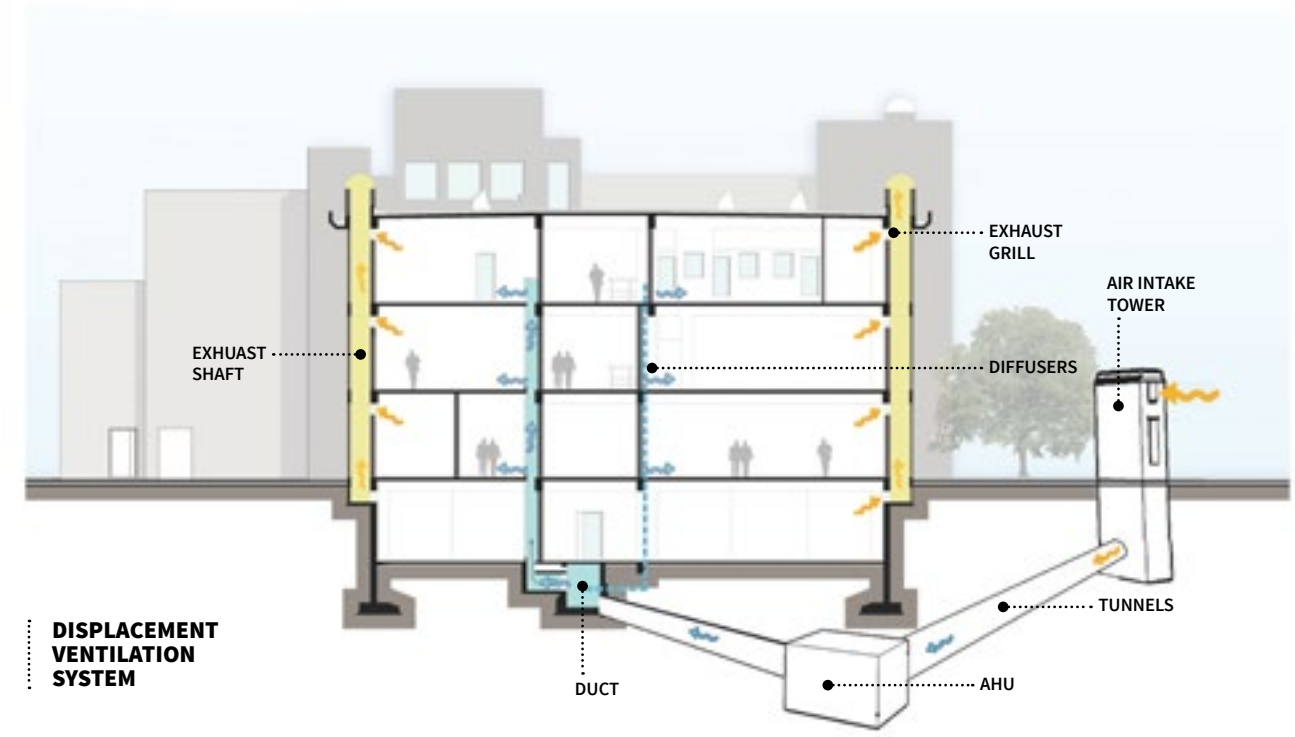
Location with north-south orientation, minimal exposure to the western sun, restricted use of glass on the exterior, external insulation of walls and roofs to avoid thermal bridges, design to keep buildings comfortably cool and dust-free without conventional air conditioning are some of the main features of the built form.

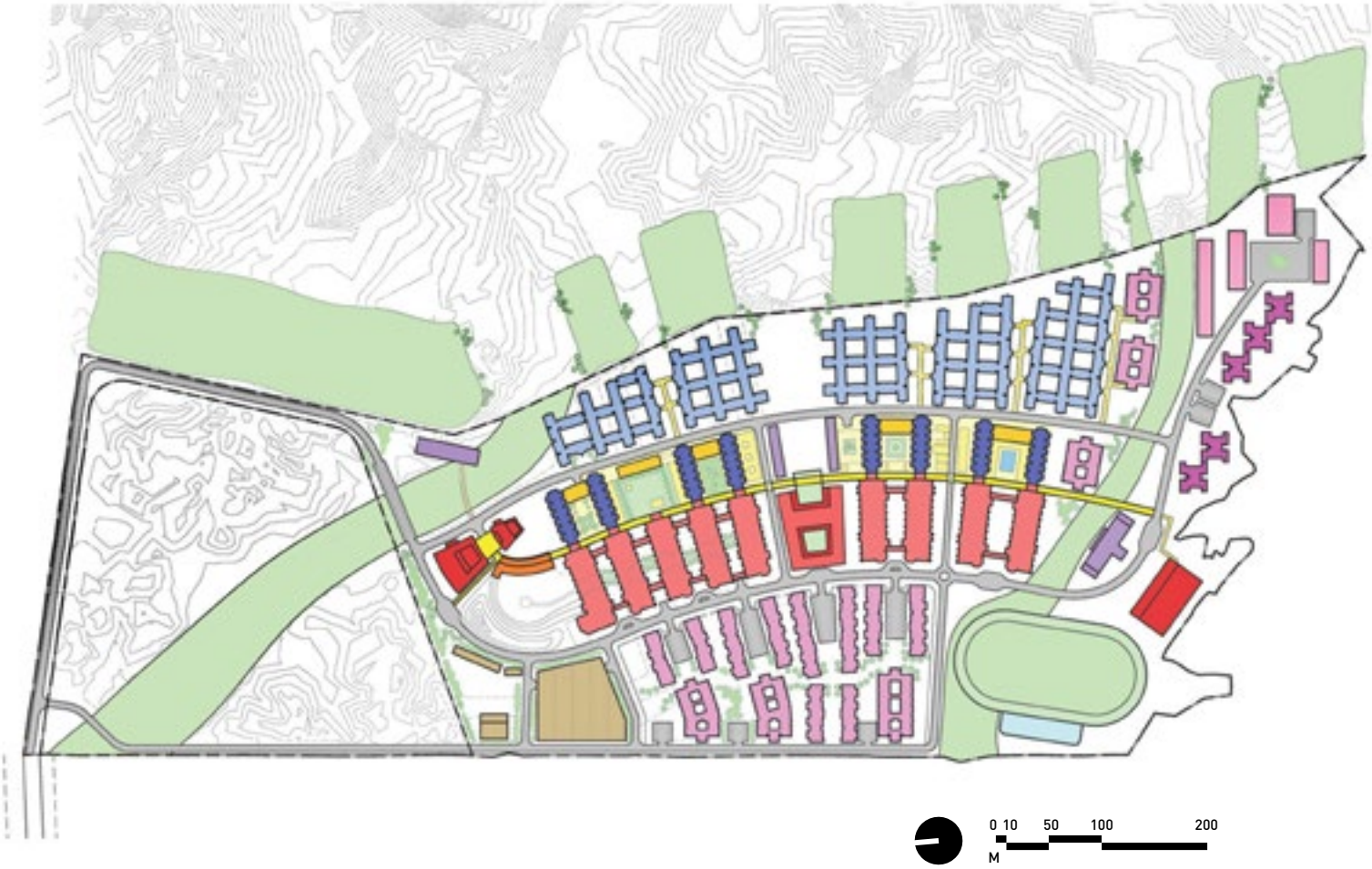
A high percentage of recycled materials have also been used to reduce the energy cost. The academic buildings are mainly daylit and artificial lighting is used only when daylight is not available. To make the best use of daylighting, the building blocks are designed with deeper rooms [10.8m] for laboratories on the south side and shallower spaces [7.2m] for classrooms on the north

side. The south side rooms have high-level windows with external and internal light shelves that improve the distribution of daylight in the deep laboratories. These rooms also get light from skylights above the central corridor. Faculty rooms, passages and cubicles on the top floor are also daylit through skylights.

Air Tunnels

At Neemrana, in addition to heat, there is an acute problem of atmospheric dust that appears as dust storms in the afternoon. Therefore an integrated, economical and sustainable way of cooling and dust control, an alternative to conventional air conditioning has been adopted. At any given place, the temperature of the earth at about four meters depth remains nearly constant through the year, day and night and from summer to winter. Air drawn through tunnels laid at this level cools the air passing through it in summer and heats it in winter. Earth is used as a heat sink and earth air tunnels are used for pre-cooling air before it is supplied to rooms. The same tunnels also provide a degree of heating in winter. The air is further humidified in dry summer months and dehumidified in monsoon season and then supplied to each room in the building. To keep the energy costs down, a displacement ventilation system is used in the buildings. Cool air [at 20 0C] enters the rooms at the floor level displacing warmer air to the top. This system provides 100% fresh air with low energy expenditure. It was calculated that the energy bill for lighting and air conditioning would amount to no more than 33 kWh per square meters of built space per year [much less than the norm of 140 kWh per square meters per year that the Energy Conservation Building Code provides for fully air-conditioned buildings].





Site Planning

The main entrance to the campus, from the north, is through a vehicular road aligned with the existing site levels with a minimum amount of cut and fill. It is further connected by a road in the east passing through the students' residential area, and another parallel road passing between the academic area and the staff residential area in the west. The buildings accommodating the academic, residential areas for students and faculty are designed as a radial alignment of closely spaced linear blocks enclosing a series of courtyards. A centrally-shaded pedestrian spine, conceived as a 24-hour activity zone, connects the students' hostels to the academic buildings. The mix of activities along the central spine by a different set of users imparts a vibrant and interesting character. The design of the spine as well as its interconnectedness allows for walking comfortably and safely, despite the extreme climatic conditions. Outdoor areas are designed with an extended view of the surrounding landscape of hills, which have been planted to improve the biomass and prevent soil erosion.

Walking Campus

To encourage the idea of pedestrianisation and reduce vehicular movement inside the campus, most of the facilities are located within a walkable distance. The vehicular movement and parking of cars, bikes and motorcycles are restricted to the common parking area, from where one walks down to different areas. The high density allows it to be a walking campus where walking is faster than motorised transport. Only emergency and public service vehicles have access to the internal roads of the campus. The University has provided a free bicycle service to all students that allows them to visit areas within and outside the campus. Ownership of private vehicles is not allowed on the campus. Neemrana is 100 kilometers from Gurgaon and about 130 kilometers from both Delhi and Jaipur. The residential campus discourages students and teachers to drive to the campus on a daily basis. Day scholars would be admitted only in the last phase when the surrounding area will have acquired substantial residential development.

BELOW |
WALKING CAMPUS
With most of the facilities located close together and its short distances connected with landscaped areas, the compact planning of the campus encourages pedestrianization

Phasing

To avoid the appearance of a construction site during the continuous development phase, the University started from a small initial nucleus of academic and residential buildings that grow in a linear fashion. This approach of building in phases facilitates continuous expansion with the least disturbance to the buildings and landscape already in use. It also permits one to develop only as much land as required, minimizing infrastructural development costs.

LEFT & BELOW |
BUILT & OPEN SPACES
Traditional built forms and contemporary thinking about climate and conservation of resources have inspired the design of the built and open spaces

With the compact layout of buildings, breezeways oriented away from the prevailing winds, tree plantation at strategic places, the campus has plenty of open spaces for rest, contemplation and community activity. NIIT University set out to demonstrate that financial sustainability can go hand in hand with environmental sustainability. This may not always be possible in individual buildings but where larger developments are visualized, local challenges can be met effectively if available natural resources are understood and deployed properly. Respect of site's natural conditions, climate and topography responsive design, adopting a high-density model of development, phased development [with a small area in the beginning], limited vehicular circulation roads within the campus, pedestrian-friendly development and solar-passive design with Earth tunnel cooling system are some of the strategies adopted to create a sustainable campus.

PROJECT SNAPSHOT

PROJECT: **University Campus at Neemrana, Rajasthan**

TOTAL AREA: **100 acres**

BUILT-UP AREA
TOTAL: **3,00,000 sqm** [AT CAPACITY OF 7500 STUDENTS]
PHASE-1: **40,550 sqm**

ARCHITECTS: **Space Design Consultants, New Delhi**

ARCHITECTURAL DESIGN TEAM
Vinod Gupta, L.P. Singh, Swati Jain, Jasmine Singh, K.J. Singh, Shilpa Gawane, Akhil Nagar, Ajay Bhardwaj, Sanjay Kasid, Debashree Pal, Manish Gola

CONSULTANTS

MASTER PLAN: **YRM, London**

LANDSCAPE DESIGN: **Shaheer Associates, New Delhi**

STRUCTURE: **S.V. Damle, Vintech Consultants, New Delhi**

ELECTRICAL: **Electrical Consulting Engineers, New Delhi**

HVAC: **Gupta Consultants & Associates, New Delhi**

PLUMBING: **Krim Engineering Services Pvt. Ltd., New Delhi**

CIVIL ENGINEERING: **Basu Associates, New Delhi**

ALTERNATIVE ENERGY: **Atam Kumar, New Delhi**

Drawings and images courtesy of Space Design Consultants

Anupam Bansal, Architect
| anupam@abrdarchitects.com

MICROCOSM *of* CITY FABRIC

SOUTH ASIAN UNIVERSITY | NEW DELHI

The design of the institutional campus aspires to create a harmonious relationship between nature and development by envisioning new ideas to accommodate the environmental and cultural needs of the development.

The South Asian University [SAU] was established to boost the cooperative spirit amongst the South Asian countries and seeks to be a world-class institution of learning, comparable to the best universities in the world, and hoping to attract faculty and students of the same caliber internationally. The SAU campus is designed to provide state-of-the-art buildings, infrastructure, and an educational environment for 14 faculties, 7000 students, and 700 teachers.

An international competition for Master Plan and Urban Design was organized in 2010. The proposal by *Archiplan ABRD* was adjudged the winner by the eminent jury comprising of Charles Correa, B.V. Doshi, J.R. Bhalla, Mohammad Shaheer, A.G. Krishna Menon, and other members from the University and the SAARC region.

The Site

The 100 Acres site is situated at the northern branch of the Aravali range of mountains. It is adjacent to the Asola Wildlife Sanctuary and the Indira Gandhi National Open University [IGNOU]. With a rocky base, the area is predominantly a scrubland with trees of *Prosopis juliflora* [Vilayati Kikar]. The natural gradient of the site slopes from the northeast to the southwest.

The Design

The urban design proposal for the campus considers inserting a simple, defined 'city fabric' into the site, concerning the surrounding metropolitan structure. It envisages establishing a strong comprehensive structure of urban spaces while responding to the urban ecological imbalance while demonstrates new ways and best practices of creating a sensitive environment. It addresses issues of environment, function, and aesthetics and its integration with architecture, site, and services.

ABOVE |
MOVEMENT & ACTIVITY MAPPING

Around 15 acres of SAARC Vanya, the SAARC Haat, SAARC Promenade along with the Institute of SAARC Studies are centrally placed. The area acts as a biodiversity hub and a social hub for the SAU around which three distinct zones of Academic, Faculty, and Students Housing Community are located. SAARC Vanya, which is an extension of the larger green of the Asola Wildlife Sanctuary provides the required offset between the public and private functions and also acts as the shared green space for all user groups. It is planned as a densely forested area. The idea is to move away from a strictly anthropocentric design while creating a harmonious habitat for both people and wildlife. High-density built-form and consolidated open spaces create a balance between the large built areas and the natural system. All the building components have been designed to support and fit seamlessly into different conditions of the urban spatial structure. The academic complex lines the visible edge of the site while the residential areas are located at the rear for more privacy.

The design prioritizes on connectivity and sharing of resources within the campus. A continuous linear strip of landscaped interactive spaces, adorned with artwork from the South Asian region, has been planned while connecting all the three primary zones. It is envisaged to provide social nooks and

ABOVE |
VIEW
3D view of the proposed SAU Campus

corners to create an activity corridor for interdisciplinary engagements. Spaces are connected with a dense canopy of native trees where people will walk, cycle or drive in and out of campus. The movement system is designed along and through the central forest and aquatic landscape with small amphitheaters and detention ponds.

Sustainable Practice

The surface runoff recharges the series of planters along the main street and rainwater harvesting pits while the overflow is carried into the larger central forest greens where it is collected in a central water body, which transforms itself into a wetland. It is envisaged that for few years this system will induce a substantial amount of water back into the ground and raise the moisture and groundwater table. The wide peripheral setback comprising of an access road and densely vegetated strip acts as a green buffer around the campus. The GRIHA LD 5 Star rated resolves to harvest and conserve every drop of rainwater that falls on site and integrate it as part of landscape aesthetics for conservation and landscape opportunities for all life forms. The landscape takes the initiative of suggesting and managing wastewater system through the bio-remedial process by recycling and reusing it as an ecological element of design.

Stormwater along pathways, cycle tracks, and the street is managed and integrated through landscape design. This will reduce the load on conventional city systems and recharge the depleting groundwater resources and enhance soil moisture and silt content. The intricate rainwater harvesting system ensures a zero discharge campus.

Biological diversity is enhanced through the creation of wetlands with a series of detention and retention ponds for both terrestrial and aquatic habitats. The landscape takes the mandate of creating spaces and habitat for butterflies, birds, other wildlife, and people through judicious selection of predominantly native plant palette.

THIS & FACING PAGE |
WORK IN PROGRESS
Aerial overviews of the under-construction SAU campus, 2020

Overlaid with a network of pedestrian and cycle tracks, the campus aspires to be a vehicle-free zone. Ample daylighting, passive cooling techniques, solar lighting, and solar water heating systems have been adopted to substantially reduce the energy consumption in the development. The buildings are integrated with solar panels which can generate enough energy to meet 25% of the energy requirement of the campus. Well-resolved waste segregation and management systems ensure maximum recycling of waste.

Buildings of Phase 1 & 2 of the South Asian University campus consisting of Nine Academic Faculties, Library, Administration Building, Convention Centre, Three blocks – Faculty and Staff Housing, Faculty Club & Guest House along with Centralized Utility Hub are under construction on-site and expected to be completed by 2022.

PROJECT SNAPSHOT

PROJECT: **South Asian University, New Delhi**
TOTAL AREA: **100 acres**

URBAN DESIGN & ARCHITECTURE: **Archiplan ABRD JV**
LANDSCAPE DESIGN: **Akshay Kaul & Associates**
STRUCTURE: **Optimal Consulting Services Pvt. Ltd.**
MEPF: **dbHMS& MJ Consultants**
SUSTAINABILITY: **dbHMS**
PROJECT MANAGER: **TCE** and **Aecom**
PROJECT DURATION:
CONSTRUCTION PHASE-1: **2014–2020**
CONSTRUCTION PHASE-2: **2016–2022**

Drawings and images courtesy of Archiplan ABRD

CLASSICS

Review by Snehanshu Mukherjee, Architect and Academician
| snehanshu.team@gmail.com

THE QUIET AMERICAN

AN ACCOUNT OF A POSSIBLE INDIAN MODERNISM

Building in the Garden profiles the journey of American architect ***Joseph Allen Stein***, who has remained one of the most profound influences in post independence Indian Architecture.

BUILDING IN THE GARDEN:
THE ARCHITECTURE OF JOSEPH ALLEN STEIN IN INDIA AND CALIFORNIA
Author: Stephen White
Published by Oxford University Press, 1993
Size 280 x 205 mm, 384 Pages
Paperback
ISBN: 978-01-95646-36-8

The search for an Indian Identity in Modern Architecture is something that has intrigued me since my early years in architecture school. Over the years that I have practiced as an architect, I have tried to address this search through my work, as well as through my academic life as a teacher and researcher in the field of architecture and design. And I consider the architecture of Joseph Allen Stein, to be the one that showed me a way to resolve this search into a journey. Stephen White's book on Joseph Allen Stein and his works I, therefore, consider being an invaluable part of my library. The book was first published in 1993 by OUP and has subsequently gone out of print, I regret that I did not get my copy autographed by Stein when the book first appeared and while he was still living amongst us.

Stephen White did us all a favor by writing this book while Stein was still very much active and deeply involved in the projects that were being constructed. Those days the office at 5 Sunder Nagar was still functional. White, therefore, had the advantage of talking to Stein over extended periods of time and accessing the vast

RIGHT |
CALIFORNIA
The building of Ladera

archives of drawings and documents that are today largely unavailable. I for one, am extremely thankful that Stephen White decided to come across from the USA and take it upon himself to document and comment on the works of this remarkable architect in a comprehensive manner. The book, therefore, becomes even more relevant in today's context where architecture in India and the world seems to have lost its reason, and several of Mr. Stein's buildings have been pulled down to be replaced by thoughtless and banal buildings.

Modernism in architecture gained impetus in India mostly after independence. Pre 1947, examples of modern architecture in India were few – commissioned mostly by a handful of the princely states, while the Neo-Classical style of architecture is what was favored by the British colonial government. After independence, as a deliberate departure from this mode, Modernism became the official architectural style promoted by the central government and by the Indian State as a whole. In the early days, several architects from the West were invited by the government to help India make the transition to the modern age. Indian architects too were trained to practice modernist architecture in colleges both here and abroad, and thus modernism spread across the country to become the accepted standard.

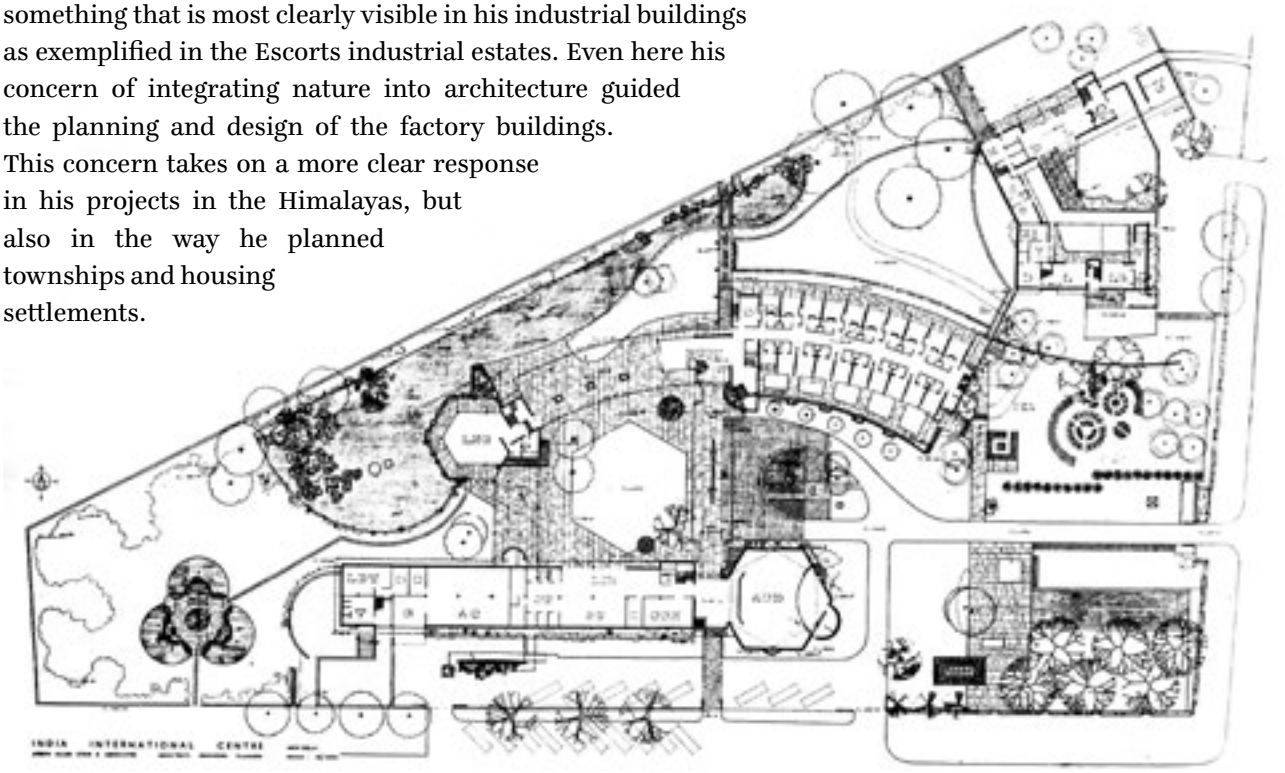
Among the various architects invited to work in India, the most flamboyant and well-known was Le Corbusier. However, in my opinion, the two architects who left a more relevant mark in India were Laurie Baker and Joseph Allen Stein. While Baker's work was based in Kerala, Stein's work was based largely in and around Delhi.

White's book documents Stein's work in a loosely chronological manner, starting from his days in California his early influences and friends such as Garett Eckbo and John Funk – with whom he collaborated to evolve his own

way of thinking and doing architecture. The book traces his earlier works inspired by Wright's Organic Architecture to developing his own "ecological consciousness" and therefore the natural context of the site that he built upon. The book seeks to explain Stein's architecture by dividing it into four broad categories – *The Oasis,* which looks at his earlier buildings in New Delhi, when pressures on the city's land and services were not evident, *Shells,* which are mostly his industrial and large span buildings where he did some daring experiments in envisaging new structural systems, *The Himalaya,* his designs in Kashmir and Bhutan where he was even more mindful of the fragile ecosystems of the Himalayas, and finally *Beyond the City,* where he explored options trying to find a practical solution to the mounting pressures of urbanization. In this last phase comes the Habitat Centre – Stein's answer to meet the challenges of the high-pressure urban future, a drastically changed scenario in Delhi, a far cry from the time the neighboring India International Centre [IIC] that he had built some 22 years ago.

The book shows, through its four-part exploration, the main themes that can be seen in Stein's architecture. His concern for nature and ecology and his effort to include it within his architecture; to above all create a sense of place that does not dominate but helps shelter and create the right environment for human activity to take place effortlessly. He had a clear and deep understanding of materials and how they could be used efficiently and economically as structural and construction systems to build his buildings. This is something that is most clearly visible in his industrial buildings as exemplified in the Escorts industrial estates. Even here his concern of integrating nature into architecture guided the planning and design of the factory buildings. This concern takes on a more clear response in his projects in the Himalayas, but also in the way he planned townships and housing settlements.

BELOW |
OASIS
Plan: India International Centre, New Delhi



Of all his buildings I find that IIC shows the remarkable ability that Stein had, to create a place that in an unobtrusive manner, set the context on a site that would virtually define the way the place was meant to be used. Not many architects display this ability, and I believe it comes from the way Mr. Stein worked.

His office, for those days, was a large one, with 67 employees. He had all departments, ranging from structural to plumbing, electrical and mechanical engineering; all of them worked in tandem under one roof along with the design studio at 5 Sunder Nagar. The fact that the office had all the various departments in-house meant that there was complete coordination and partnership between the architects and the engineers. This was one of the important aspects of the way Mr. Stein developed his designs. His design ideas were always discussed from the early stages with the head of structures and developed side by side with the architecture department. Quantity surveying was another art; the writing of specifications, often of items that were being experimented upon for the first time by Stein, was very much a part of the process of design development and required in-depth knowledge of not just the material and finishes but how it was to be used in construction.

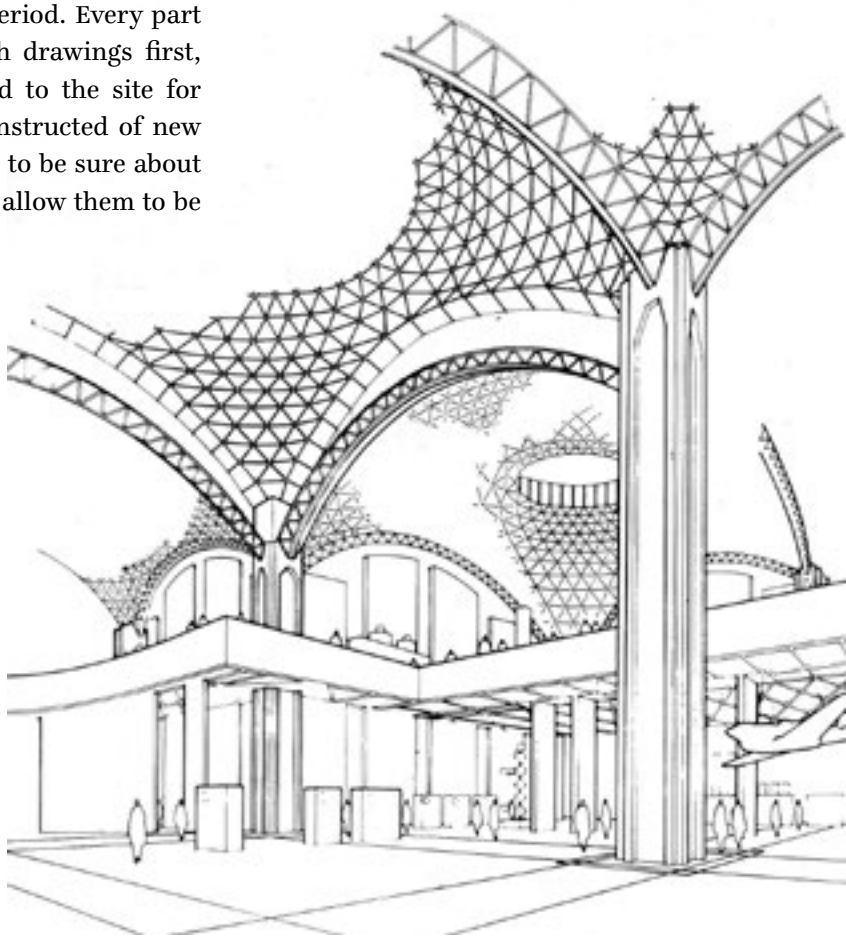
BELOW |
OASIS
Glasshouse in the Lodi Gardens, New Delhi

Stein was an architect who went to the very basics of a design process and never hesitated to invent a new way of constructing a building – if he was convinced that the design required such a technique. The IIC is one of his earliest projects, built in 1959, when he experimented with prefabricated structural systems which in many ways defined the way the buildings appear to the viewer. The use of prefabricated components to construct a building was a relatively untested method in India at that time. Stein and his office put together IIC with a high level of quality and precision, whose visible proof we can see in the way that the buildings have hardly weathered over the 60 years of their existence. This needs to be further understood from the comparison that can be drawn with more recent buildings, which seem to start crumbling within just 10 years of their construction.

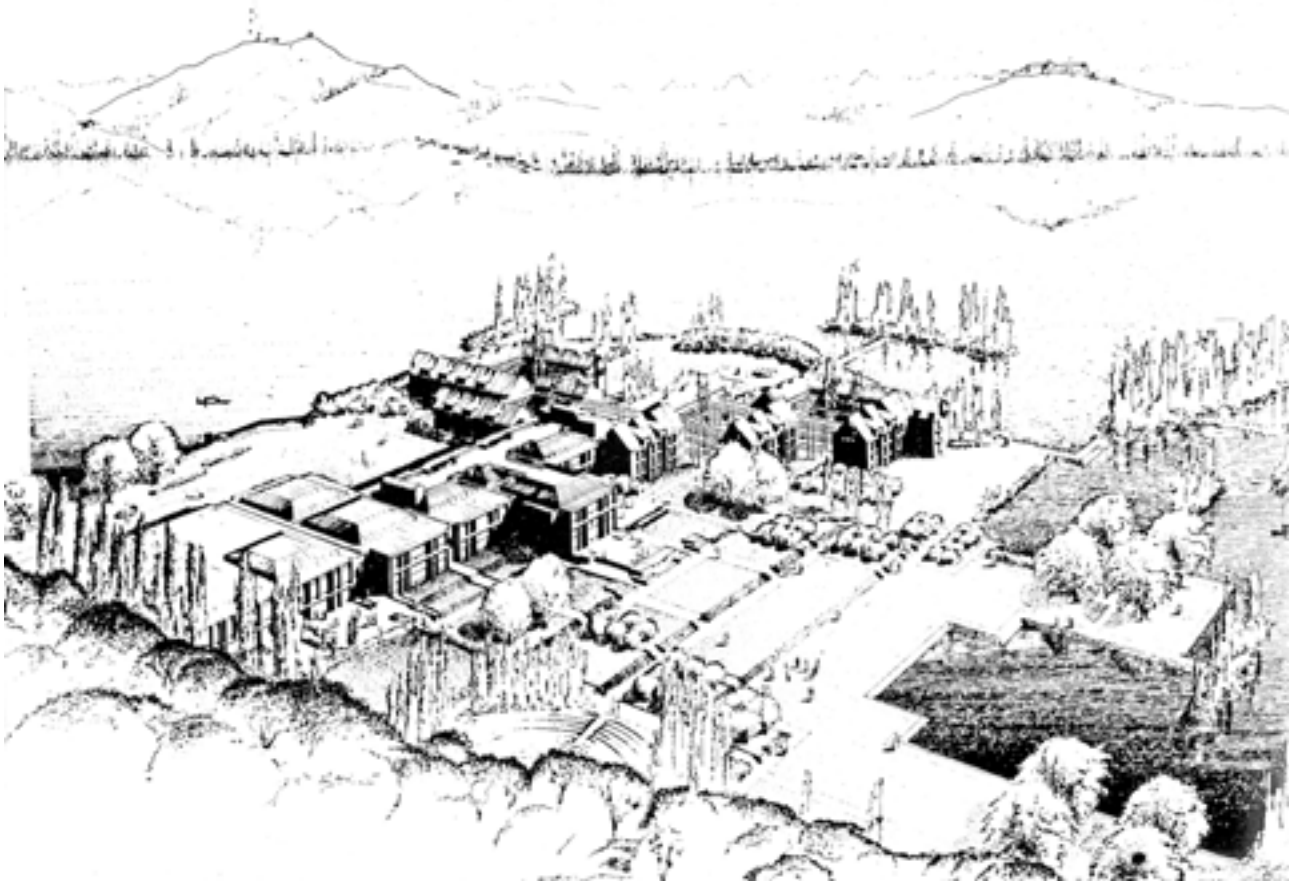
The attention to detail can be seen from examples of drawings included in the book. The hand-drawn construction drawings show the amount of research and thought that was given to each detail at the design stage. The level of design detailing that the office of Stein followed is probably unmatched by any other architect of that period. Every part of the building was examined and resolved through drawings first, double-checked, and only then allowed to be issued to the site for construction. Very often full-size mock-ups were constructed of new details in the office backyard, this was done for Stein to be sure about the construction and its functioning before he would allow them to be implemented on site.

Mr. Stein had said that he came to India not only because of its rich cultural past but because of two people who were born in India and whom he respected – Gandhi and Tagore. For Stein, these two persons had one thing in common, the ability to see beauty in simple things – in Gandhi's case the beauty of austerity and in Tagore's, his sensitivity to the simple beauty of nature.

This is what Garrett Eckbo, the American landscape architect from Berkeley has to say about Stein, in Stephen White's book, "….he moved to an extraordinary career in India. There he not only produced architecture of exceptional quality and refinement, in a long series of important projects but did so while adjusting and adapting to an entirely different culture, more eastern than western, on the other side of the world."



ABOVE |
SHELLS
National Trade Centre and Exhibition Building, New Delhi



ABOVE |
HIMALAYA
The Kashmir Conference Centre, Near Srinagar

Stein originally came to India to head the Bengal Engineering College's architecture department. The demonstration rural housing project that Stein and the students of Bengal Engineering College had built, was probably the very first work of his in India and it shows the same concern as all his other projects that followed.

All his projects show a careful choice and use of materials, and how they should come together in construction to create architecture that is understated in its aesthetic expression and at the same time beautiful. The fact that his buildings and the spaces that they create are beautiful, can be sensed from the moment we confront them. Even though their overall form appears simple, it's the way that the muted colors and textures come together in harmony, composed as classically proportioned masses and planes, which give his buildings their unique identity, as well as their timeless quality. His concern about the specificity of the site, its location, its environs, the climate of the seasons, is what has shaped his buildings and the use of the spaces that they enclose.

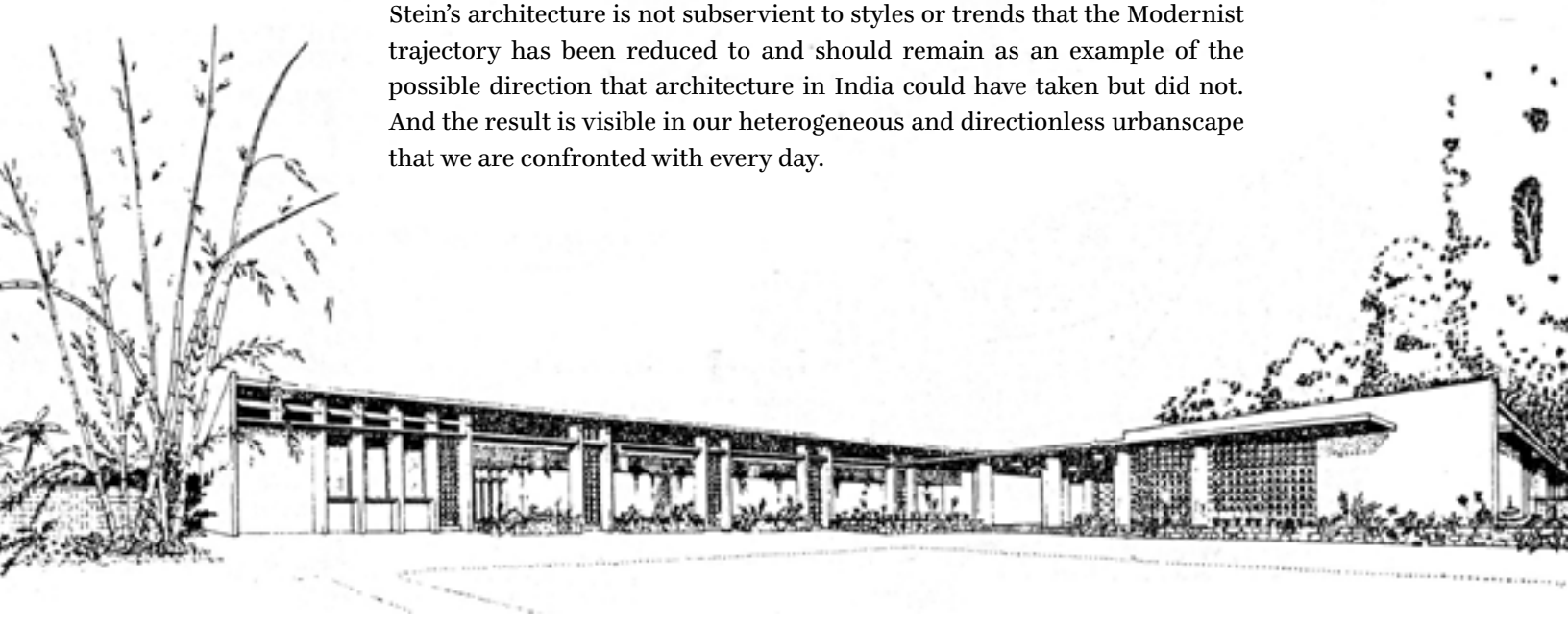
His buildings seem to be a part of the natural organization of the site itself. So much so that even though in mass and shape the IIC, for instance, is entirely different from the Lodi tombs that stand across the boundary wall, Stein's buildings do not seem to be in opposition with them in any way - rather they seem to sit in a quiet and companionable way, each with their own distinct identity.

His concern about integrating nature as a part of the design of his buildings was something that guided a lot of his architectural decisions. He often planted trees himself at specific spots on the site to allow them to grow unhindered. I believe that he designed his buildings around the way trees and plants would begin to grow, once the construction was over on site. His ability to look at a project in a holistic way from the macro-level of site planning to the smallest detail, including the design of the furniture and interiors of the buildings, created a concerted unity in experiencing his architecture at every level. This, then was his hallmark, not because he wished to control his buildings to the last detail, but because he was capable of imaging his projects in totality which was inclusive of all aspects of architecture, from its structure to the way a corner of a wall should be dealt with.

For me, his buildings are the answer for what could have been the way that Modern Indian Architecture could have chosen to evolve with. His buildings seem difficult to date and they never seem to go out of fashion. This is because they share the same attributes with other timeless works of architecture.

His buildings, therefore, satisfy all the important tenets of Modern Architecture and yet are not similar in any way to the examples of what is called the International Style that Modernist architects had publicized towards the beginning of the Twentieth Century - as the way for architecture to be across the world. We can see the result of such propaganda quite prominently all around us, irrespective of which part of India we may be in. Stein's architecture is not subservient to styles or trends that the Modernist trajectory has been reduced to and should remain as an example of the possible direction that architecture in India could have taken but did not. And the result is visible in our heterogeneous and directionless urbanscape that we are confronted with every day.

BELOW |
BEYOND THE CITY
Durgapur Township: Elementary School



ABOVE | **OASIS**
Jali screens and vaulted roof, India International Centre, New Delhi

"I would like to think that we do good architecture that is appropriate to the time and place."

I would like to end here by quoting Stein in Stephen White's book where he has talked about what he thought about his architecture, a very rare instance where he assesses his own work.

"The relation between regional particularism and what you can call knowledge, skill, and technology, which have no regional boundaries, has always interested me. In other words, we are all of our time, wherever our place is. Many things belong to our time, and many things belong to our place. And I think in a time of complex transition this becomes a very important thing – how to make a reasonable integration of time and place. I hope that's what we've more or less done with the works that we've been doing. I never think of my work as being either modern or conventional, or any label like that. I would like to think that we do good architecture that is appropriate to the time and place."

ENVIRONMENT, ECOLOGY AND BIODIVERSITY

Landscape Environment Advancement Foundation [LEAF]
| leaf-india.org

EMBRACING THE WILDERNESS

The idea of wilderness has been celebrated by diverse cultures across the world, in history and in contemporary times. With strong spiritual, philosophical and spatial attributes, wilderness has spaces of serenity and repose, of surprise and wonder It can show an enlightened direction to spatial designers to imagine landscapes that are ecological as well as experiential. The recent works of LEAF [Ahmedabad], a non profit organization engaged in environment and landscape research – *Transgressing Wilderness* and *Outgrow* explore the idea further. The researchers of these respective works share their experience of engaging with the subject.

TRANSGRESSING WILDERNESS
INVESTIGATING THE WILDERNESS IDEA
IN THE URBAN REALM
Author: Rushika Khanna
Published by LEAF, 2019
Size: 240 x 240 mm, 250 Pages, Softcover
ISBN: 978-81-932729-3-0

OUTGROW
Authors: Dhara Patel Mittal, Nishant Mittal & Parita Jani
Published by LEAF, 2019
Size: 128 x 234 mm, 296 Pages, Softcover
ISBN: 978-81-932729-1-6

FACING PAGE |
OUTGROW
Graphic from 'Outgrow' by Dhara Patel Mittal, Nishant Mittal & Parita Jani

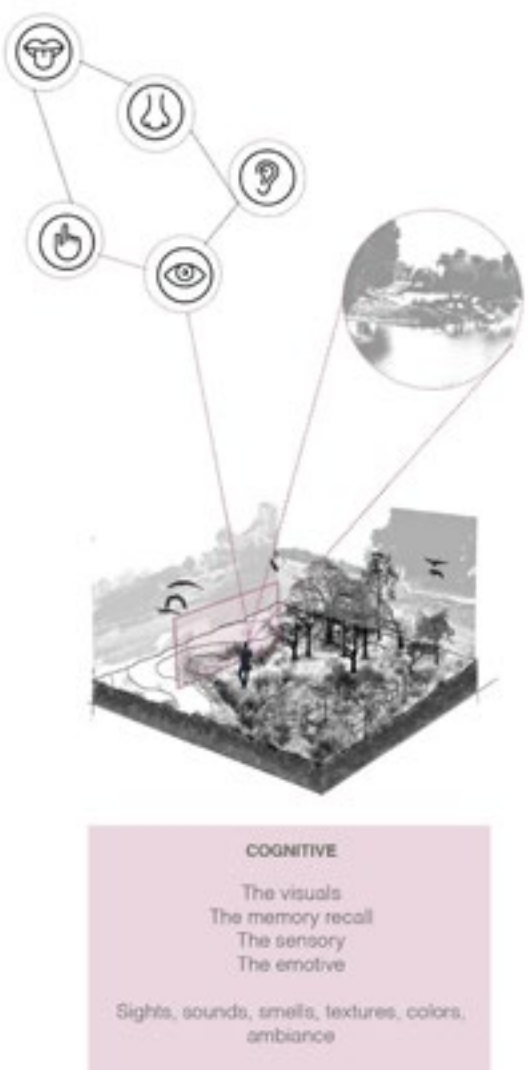
Rushika Khanna, Landscape Architect
| rushika.khanna@cept.ac.in

TRANSGRESSING WILDERNESS

Investigating the Wilderness Idea in the Urban realm

Idea of Wild

'Wild' landscapes have always intrigued and beguiled us. The subject dwells into many layers that indulge with the physical setting, cognitive senses, and ecological bearings. Our relationship with the wild has been a to and fro process, at first a place that was beyond the thresholds of civilization laden with mysteries and creatures of the wild, to one filled with antipathy giving way to rampant fast-paced development, changing the way we relate to them. In the current context, a 'wild' landscape is often understood as those untouched or rather pristine landscapes protected and bounded and sometimes far placed from our cities. Within this journey of understanding the wild, I realized that the thought of 'pristine' landscapes was one that was very naive. I realised that searching for the wild would mean looking beyond forests and sanctuaries set aside but rather digging deeper into what the essence of the wild could be about. As a student, I realized that much in India focused on documenting these ancient wildscapes, and the dialogues with them were many. The more forsaken wildscapes were actually those that are around us, transgressing those very boundaries – novel ecosystems self-willed and exuberant, appearing as a respite from orderly landscapes. My thesis began with this theoretical base work of understanding a 'wild' landscape and positioning it in our current context, especially in the urban realm. My tryst with the subject didn't end there, and I went on to build on what had started as an inquiry through the opportunity of the LEAF fellowship in 2019, whereby I started to emphasize more on the character of a wild landscape.



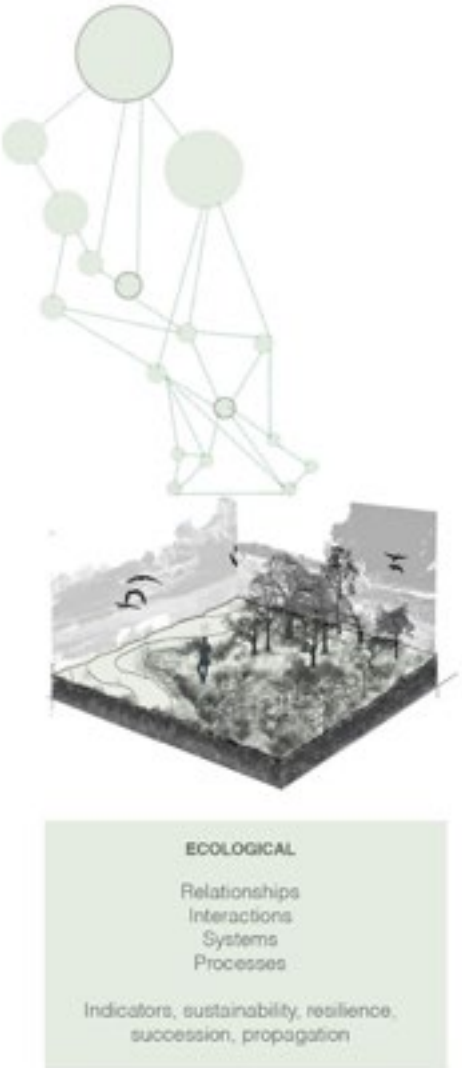
The Process of Study

In order to do this, wilderness in the urban context was deciphered in terms of its intrinsic values, moving beyond standard definitions of the size of the land and the relative human interference of man on nature. Rather it started to address the landscape as one which narrated a story of experiences, sounds, smells, textures, visuals, and others. To analyze the wild, an assessment chart that was hooked onto the idea of a storyboard was conceived, where the parcel of wildland was looked at as the plot of the story with the elements harbored within

it by its protagonists – the landform, the ground, the vegetation, sky and the fauna. The storyboard took ahead certain 'instances' that were analytical and subjective in nature, whereas certain 'emergence' that were looked at as a typical quadrat study bearing hard facts. The assessment took shape across multiple scales and brought forward systemic relationships that expressed the wild through frequently used linguistic terms that could rearrange the 'random' order and 'chaos' of the wild.

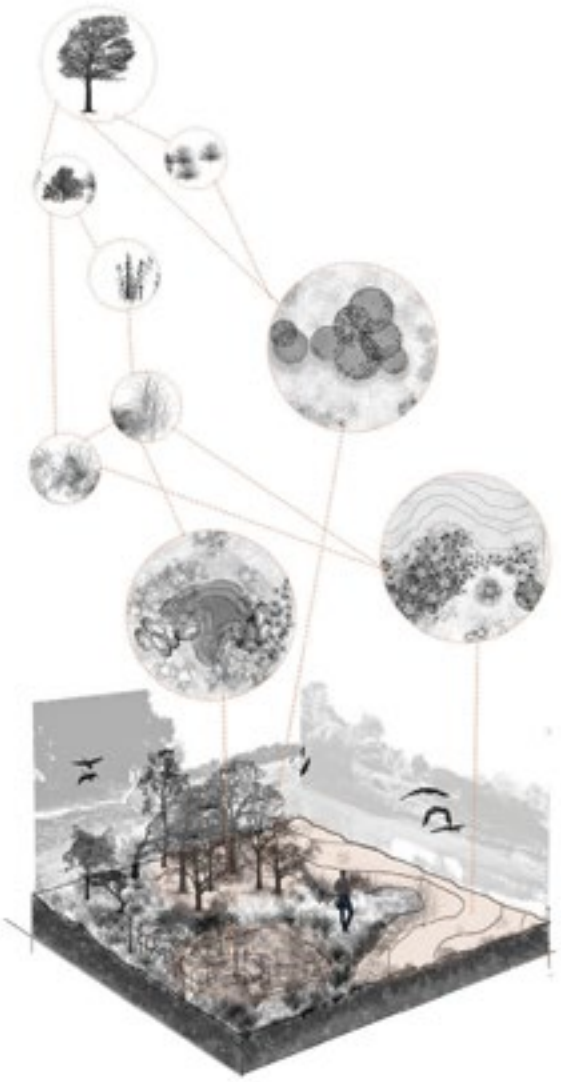
Site Selection

Through the process of understanding the wild and where it exists, a rationale of the typological variants within this range of wild landscapes was elaborated upon. These typologies started to define certain catalysts that were within the site and beyond it that gave it a certain influence in terms of character and most importantly, its prolificacy and growth. The typologies shed light on the structure of the wilderness parcel – those elements that make the landscape and bind it, and those that are seasonal drifts that are ephemeral in nature. From these typologies, those that struck out as omnipresent yet obscured from the radar of the wild were studied in depth. The methodology of the study was devised such that it could be scalable and could further amplify the assessment to other contexts apart from the region taken as a starting point for the research.



Learnings

Transient wilderness often acts as *terra-nullius* in the larger fabric; allowing the land to be reserved for processes at play. Against the convention of preserving landscapes, it demonstrates the characteristics of altered ecologies that continually adapt to the current context. Their response to the setting transcends roles: from being a respite against the rules of civilized landscapes to being holding grounds of ecological value; giving a memory recall of the wild in its arduous layering of the past and present. These parcels of land stand as bare reminders of non-manipulated systems that govern the principles of wilderness in the urban landscape. In its true sense, transient wilderness reflects the characteristics of (un)altered ecologies – a dichotomy that brings to the forefront the contrast that defines wilderness. The cornucopia of 'wild' elements in the landscape brings forth a plethora of observations. One could be immersed in deriving meaning and deciphering the wild, one such way of looking at the wild is what the research elaborated upon. The study also started to shed light on how one can weave in



the narrative of the wild into designed landscapes, not by merely replicating plant specimens to context, but rather to imbibe its sensorial experiences that give the wild landscape it's true bearing. An attempt at sequentially expressing how one would go about implementing the idea of the wild into designed landscapes is something that the research touched upon, still nascent and yet to be further explored through many more dialogues with the wild.

The research brings forth with it a sincere attempt at appreciating wild landscapes not merely for their ecological premise, but also for their positioning and bearing. It starts to shed light on various ways one can document these landscapes foraying into methods that divulge into efforts that move beyond the conservation and restoration approaches. For one to experience the wild for its inherent characteristics one must seek to find meaning in its existence. The research hopes to inspire others who seek to have dialogues with the wild and attempt to imbibe its value consciously or subconsciously into ideations of the wild in their efforts of implementing the wild.

THE WILDERNESS CHARACTER
AMPLIFICATION OF THE PREMISE: WHAT MAKES THE LANDSCAPE WILD?

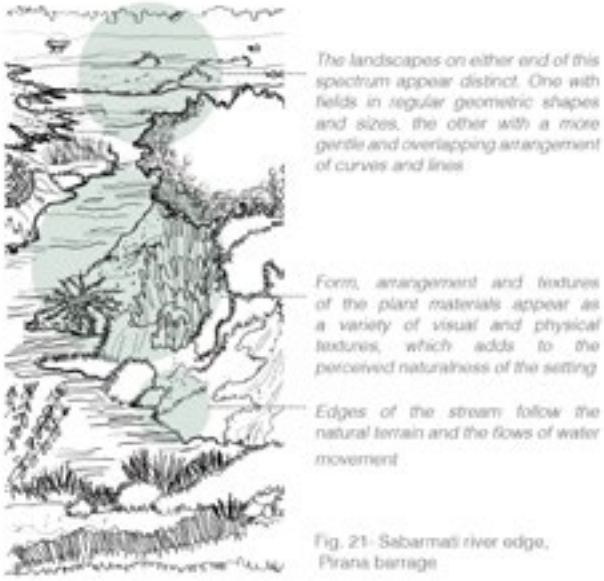
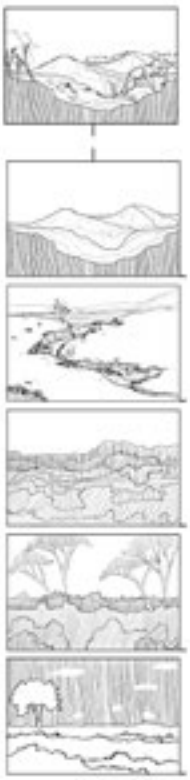


Fig. 21: Sabarmati river edge, Pirana barrage

INVESTIGATING WILDERNESS IN THE URBAN REALM
WILDERNESS CHARACTER ASSESSMENT FRAMEWORK FOR CONDUCTING ASSESSMENTS FOR POTENTIAL WILDERNESS SITES



PLOT

SETTING
The geographic setting in which the wilderness patch is situated behaves like the plot for the narration. The protagonist of the narrative will be a combination of elements that form the character of the space.

PROTAGONIST

LANDFORM
The undulations of the terrain present on the site dictate local and regional conditions. These may be influenced by external forces of biotic and abiotic origins. *Some landforms appear visibly dominant in the landscape and these then start to influence local conditions such as forming valleys and ridges within the wildscape, which control the accumulation of water.*

PRESENCE OF WATER
Accumulation of water in the landscape occurs in many ways and the presence of water on the site dictates many factors regarding the presence of vegetation and micro-climatic conditions.
The presence of water is also suitable for fauna habitats and hence may add to the many layers of the narrative. *Water can be traced in several ways, from direct visuals to reading signs in the wildscape indicating moisture levels.*

GROUND COVER
Ground covers occur seasonally and may also appear as permanent features. These are dictated by soil type, moisture levels, light conditions and local catalysts. *Some landscapes have dominant ground covers that govern the character type of the wildscape.*

VEGETATION
The vertical stratification of vegetation on a given site acts as an indicator to clues of the level of succession of the landscape. The understorey is classified by ground-covers, grasses, herbs and shrubs. The middle storey is classified by the presence of tall shrubs and small trees. The upper storey is classified by tall trees. *Some wildscapes have the vegetation featuring as the dominant visual.*

SKY COVER
The sky cover adds significantly to the patch of wilderness in terms of its ecology and its experience. Open and vast landscapes signify high amounts of sunlight and the opposite dictates less amount of light. These can cause niche conditions for species to thrive. *The sky cover could be a dominant factor in the visuals of the wildscape, causing the viewer to shed focus towards the subject, and also contribute to the spatial setting.*

The nature of the protagonists of a given wilderness site contribute to the representation style of the storyboard. The protagonists start to reveal the genius loci of the wilderness parcel.

The storyboard takes shape in multiple styles - collages, drawings, photographs, tiles and others. This allows for the representation of the wilderness to be based on its inherent characteristics.

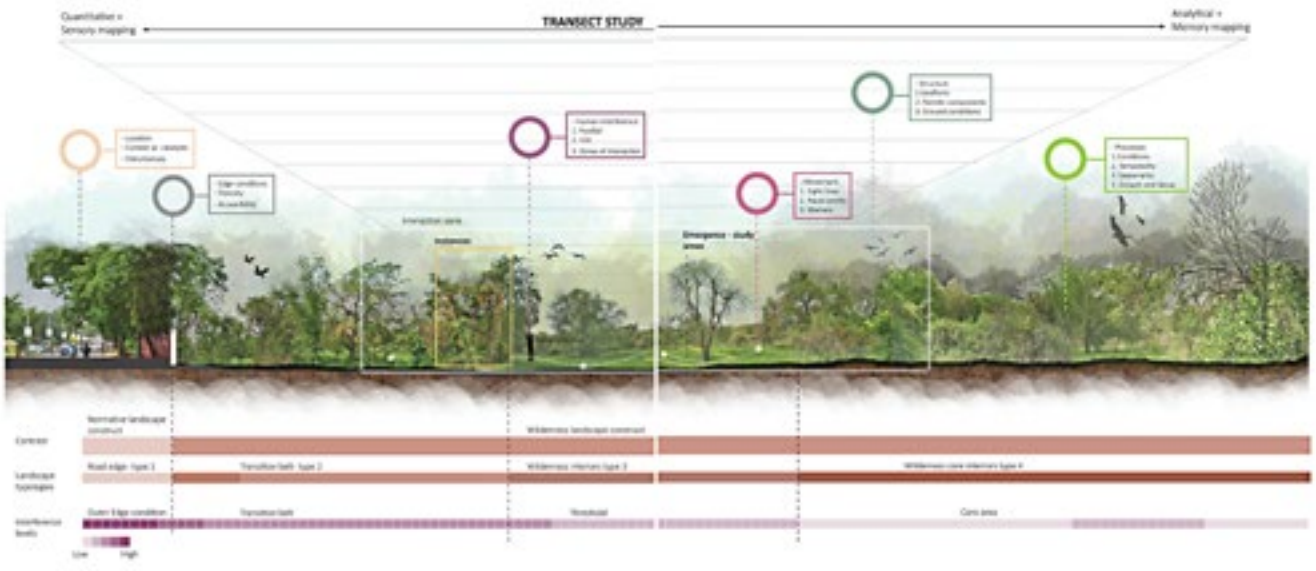
STORYBOARD

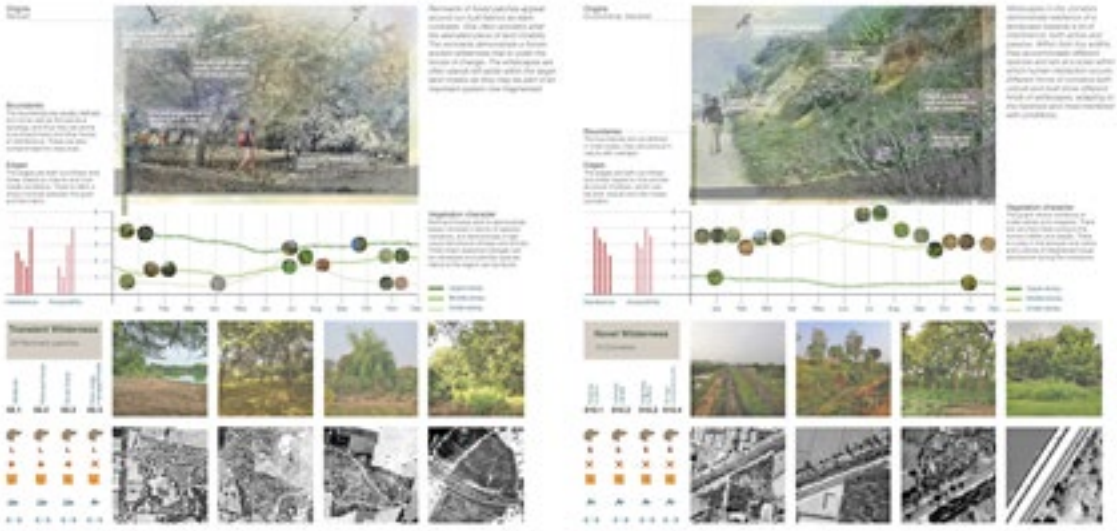
INSTANCES

Analytical and subjective interpretations of the wildscape are categorized under 'Instances'. These are represented through sketches, plans, sections and diagrams. These instances may be permanent or temporal in nature and have been recorded as per a given date and time on which they were encountered. These describe phenomena or occurrences that are intriguing along the journey within a wilderness area.

STUDY AREAS

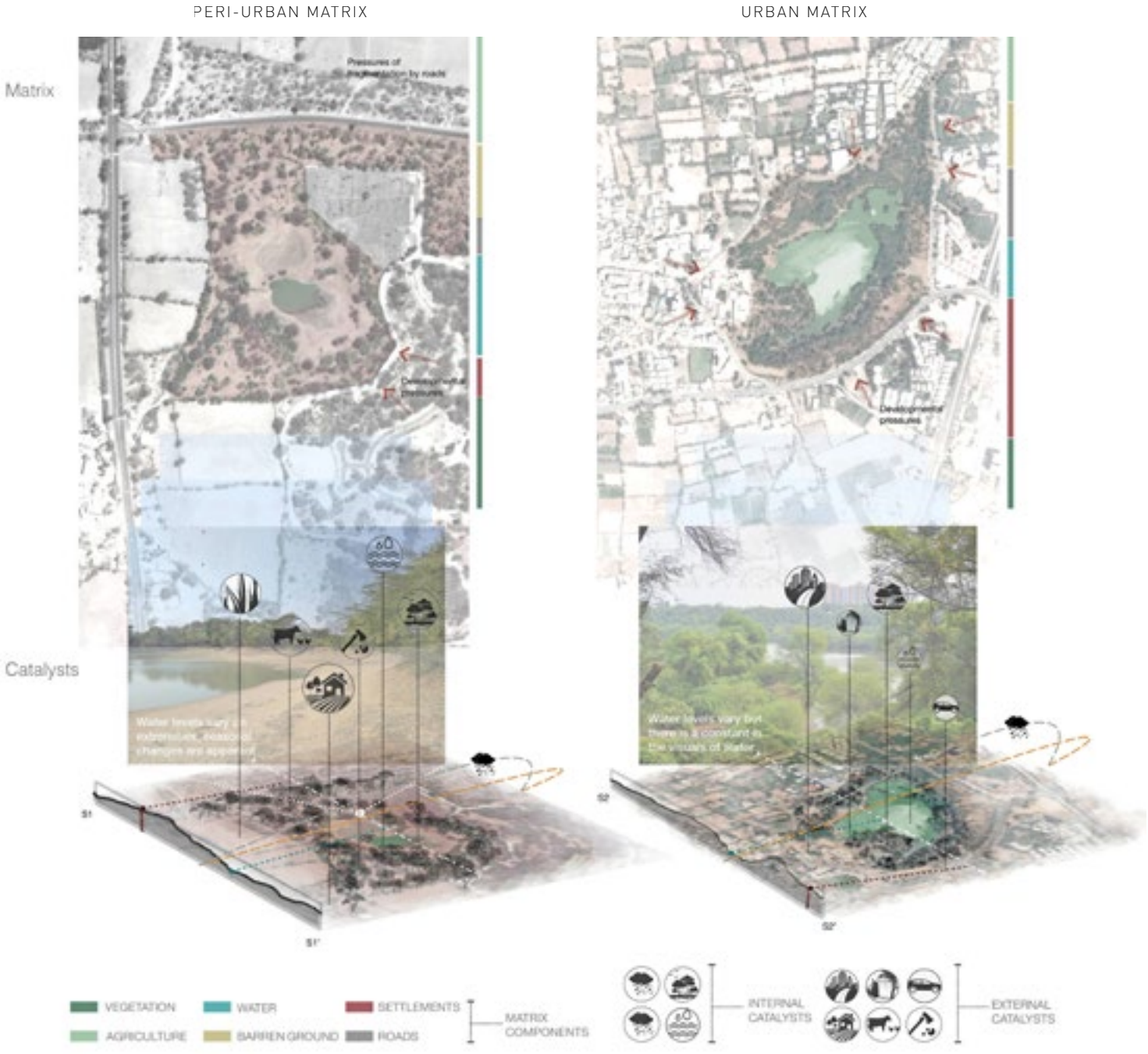
Factual interpretations of the wildscape in terms of preliminary quadrat studies helps understand specific elements within a given pocket of 20 m x 20m.These are represented through plans, sections and exploded diagrams, along with photographs to express the same. These are pockets that are identified to express the structure of the wilderness area. These may start to describe certain characteristics of the wilderness area.





WILDERNESS AROUND US
ENUMERATING TYPOLOGIES

SENSORIAL EXPERIENCES
TEXTURES, SOUNDS, SMELLS, MOVEMENT & FAUNA SIGHTINGS



SITUATING THE WILDERNESS
LOOKING AT A MATRIX

Dhara Patel Mittal, Landscape Architect | dharakp@umich.edu
Nishant Mittal, Urban Designer | nishantm@umich.edu
Parita Jani, Landscape Architect | paritajani@gmail.com

OUTGROW Wild at Heart

Outgrow showcases plant species that are found everywhere but rarely purposefully planted. It uses these species as tools to explore the matrix style – an informal naturalistic planting style that is informed by how plants occur and interact with one another but is designed for visual effect.[1] It is a project that is built around curiosity and love for "ordinary nature" – one that surrounds us but is rarely appreciated or even recognized.[2]

Inspirations

Our appreciation for these self- willed plants can be traced to the works of Peter del Tredici, Richard Mabey, Emma Marris and Jake Wallington among others. I first learned about their work through mentions in readings that were part of the Ecological Planting Design Studio offered by Prof. Mary Carol Hunter at The University of Michigan, Ann Arbor. While the studio readings focused on introducing contemporary ways of planting – particularly naturalistic planting[3], it was the views of the proponents of these planting approaches that imprinted my mind and in turn Nishant's as well. Parita had been independently exploring ideas on naturalistic planting through her projects and shared our inclination to work with these approaches.

Naturalistic planting or nature like planting is an approach to planting design that works with designed plant communities rather than individual species. It has a broad range of approaches that fall along a gradient of two leanings – artistic and ecological. The work of several celebrated contemporary planting design professionals like Piet Oudolf, James Hitchmough, Nigel Dunnet, Roy Diblick, Thomas Rainer, Claudia West, Noel Kingsbury [to name only a few] sits across this spectrum.[4] Though their approaches vary, what they have in common is the idea of intermingling and working with plant communities rather than an arrangement of individuals. While their approaches to planting design are certainly exemplary, it is the optimism and unjaded manner through which some of these practitioners approach plants that is truly infectious and has been a major takeaway for us.

[1] Detailed explanation in section "Matrix Planting" in Oudolf, Piet and Noel Kingsbury. *Planting a New Perspective.* Portland: Timber Press, 2013, 99-102

[2] Emma Marris's views on the idea of nature and the wild. Green, Jared. "NEWS, Interview with Emma Marris." n.d. <www.asla.org/ContentDetail.aspx?id=34133>

[3] Chapter "Introduction to naturalistic planting in urban landscapes" in Dunnet, Nigel and James Hitchmough. *The dynamic landscape: Design, ecology and management of naturalistic urban planting.* 2004, 8-12

[4] "Contemporary Overview of Naturalistic Planting Design" by Noel Kingsbury in Dunnet, Nigel and James Hitchmough. *The dynamic landscape: Design, ecology and management of naturalistic urban planting.* 2004, 81-123

Led by practitioners in Germany, many professionals of naturalistic planting find value not only in working with native plant communities but also in working with plant communities that occur spontaneously and survive without active management or care.[5] These communities are found everywhere from abandoned buildings to railway tracks. They contain a wide array of species that are not necessarily native but are definitely well adapted. Many practitioners like Norbert Kuhn, Peter Latz, Oko-con/ planland, Odious artists and Piet Oudolf [to name a few], have not only recognized these species for their diverse ecosystem services but have also used them as design opportunities. They make up some of the most remarkable and evocative plantings of projects like The Highline, Landschaftspark, Natur Park and Liberty State Park.

The Study

It was through these ideas of seeing things anew or finding beauty in the ordinary that we began *Outgrow*. Situated in Navli, a village 80km southeast of Ahmedabad, *Outgrow* started off on a derelict field that lay barren and uncultivated for several years. Surrounding the site were patches and corridors teeming with diverse plant communities and brimming with life. To explore the use of spontaneously occurring species in naturalistic planting we began by observing these communities in and around the site. We marked off quadrants where within 1 m x 1.5 m we observed 5 or more than 5 species. We documented each quadrant for abiotic conditions [location, light conditions and presence or absence of moisture] and biotic conditions [number and diversity of species]. While some species could be identified through local names, we pressed all species into herbariums to verify identification. After verification each quadrant was analyzed using Piet Oudolf's approach to studying a grassland. Here we documented intermingling, diversity, change, complexity, coherence and distinction.[6]

We used identified herbariums to procure individual specimens that we cultivated on the test site under three light conditions – full sun, part shade and shade. We collected a total of 85 plant species of which we successfully cultivated 64 in test beds. While we did nothing to alter the soil, water was supplied to each bed once a week in summer and twice a week in winter.

We grew these species and monitored them over a period of nine months. We gathered information on ecological characteristics [abiotic conditions and biotic associations] and plant characteristics [plant

[5] Section on Spontaneous vegetation and its creative management in in Dunnet, Nigel and James Hitchmough. *The dynamic landscape: Design, ecology and management of naturalistic urban planting.* 2004, 97-100

[6] Section "Block or Bend" in Chapter " Planting- The Big Picture, in Oudolf, Piet and Noel Kingsbury. *Planting a New Perspective.* Portland: Timber Press, 2013, 26-27

architecture and plant performance]. Plant information was coded based on a framework adapted from Piet Oudolf's *Plant Directory* in *Planting a New Perspective*[7] and Mary Carol Hunter's *Plant Profile* taught in the Ecological Planting Design Studio offered at the University of Michigan. As nine months were too short to correctly claim information, our plant cards contained information from both on site observations and our botany and conservation ecology experts' long term experience with these species.

To explore the use of these species as tools for naturalistic planting, we further decoded and evaluated them for plant combinations. The approach to naturalistic planting we chose to work with was the Matrix Style.

The Matrix

Matrix planting is an informal approach to naturalistic planting developed by Piet Oudolf. He works with planned plant placement and randomness of seed sowing. He mostly uses perennials to create plant combinations that are not only bio-diverse and sustainable but also visually interesting and evocative. His aesthetic philosophy celebrates the beauty of plants through all seasons. We chose to work with this approach because at its heart lies the idea that people are part of and not separate from ecology and therefore for planting to be valued it has to be liked.[8]

In Matrix planting, small to medium blocks of a diversity of species are embedded in a larger matrix that comprises one or a limited number of species. The blocks are made of species that stand out and provide structure to the planting and the matrix is made of species that tie the planting together or provide coherence. Scattered within the mix are plants that provide seasonal spontaneity to the planting scheme through their structure, bloom or fruiting.[9]

To facilitate plant combinations using documented plant species, we used the same plant hierarchy as that of the Matrix Style to decode our species as primary plants [plants that provide structure to the planting] matrix plants [plants that provide coherence or act as fillers] and scatter plants [plants that provided spontaneity to the planting]

Piet Oudolf uses the analogy of a fruit cake to describe the matrix style of planting. He explains that the relationship between primary plants and matrix plants in a plant mix is like that of a fruitcake where nuts and fruit

[7] Section "Plant Directory" in Oudolf, Piet and Noel Kingsbury. *Planting a New Perspective.* Portland: Timber Press, 2013

[8] Chapters "Planting - The Big Picture" and "Grouping Plants" in Oudolf, Piet and Noel Kingsbury. *Planting a New Perspective.* Portland: Timber Press, 2013. 99-111, 75-199

[9] "Planting - The Big Picture" and "Grouping Plants" in Oudolf, Piet and Noel Kingsbury. *Planting a New Perspective.* Portland: Timber Press, 2013. 99-111, 75-199

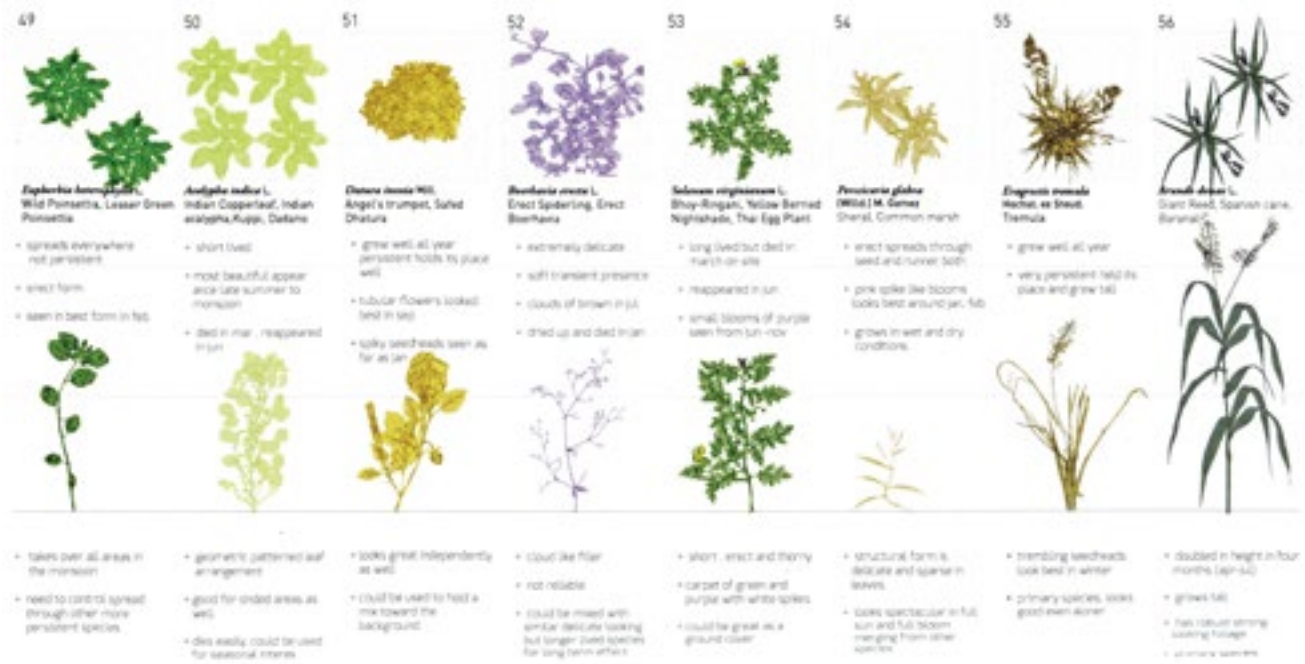
are scattered through a dough mix.[10] We translated the same idea to our plant mixes. We tested two plant mixes on site. Each mix was planted in a 4×5m bed. For both cases, the design was a two-fold planting, with filler plants [less visually dominating] or supporters and structure plants [primary] or actors. In addition to these, both plantings contained scatter plants. For the purpose of testing, we did not confine ourselves to the idea of working only with perennials and also used annuals or short-lived plants in our mixes.

We were able to document individual species for a length of nine months. Our documentation of the mixes was limited two months after which the pandemic set in. Observations for both mixes are documented in detail in the fellowship compilation and we continue to cultivate individual species and experiment with more mixes on site. The details of these findings will be made available soon on our website *www.outgrowstory.com*

Through *Outgrow* we made friends with underrated and ignored plants. While we are now aware of their preferences, sizes, form, bloom time, fruiting time etc., we find more joy in their delightful traits. We can never pass by *Setaria glauca* [Kutri Ghaans] without plucking out it's seedheads and throwing them viciously on each other to see whose clothes it clings on to first. We wait to pluck out *Cleome gynandra* [Ghandeli] and make an unaware friend smell it just for her to make a face. We never fail to hold out *Chloris barbata* against the sun to see the purplish brown hair on it's seedheads. *Clitoria ternatea* has to be taken home for blue tea and *Sonchus wightianus* needs to be blown over for it's seeds to fly so as to make a wish. And while we continue our shenanigans with them individually, we never stop dreaming of and conjuring up plots of how we could get them together for a collective party. Where some could dance their hearts out, some could be uptight and hold their place, some could be shifty jumping in and out and some could also be party poopers creating trouble and passing out.

More than anything this project has taught us to believe in and embrace the unruly rebellious nature that we most frequently encounter. If not anything it has certainly helped us – *outgrow* our idea of nature. While we found great joy in working on a project that both anchored us and allowed us to dream, it was everyone at the *Landscape Environment Advancement Foundation* that encouraged our indulgence and made this possible.

[10] Chapter "Grouping Plants" in Oudolf, Piet and Noel Kingsbury. *Planting a New Perspective.* Portland: Timber Press, 2013. 99-111

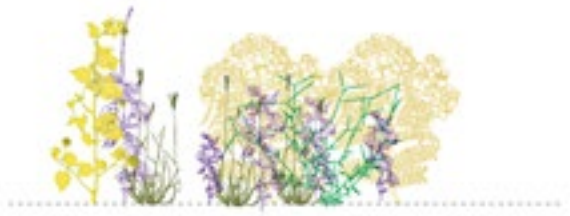


MISFITS
SPONTANEOUS PLANTS

PLANT BED OBSERVATIONS

Sida Rhombifolia L.	16
Digitaria longiflora (Retz.) Pers.	05
Achyranthes aspera L.	11
Dactyloctenium aegyptium (L.) Willd.	15
Chloris barbata Sw	02
Senna auriculata (L.) Roxb.	02
Abutilon indicum (L.) Sweet	02

BLOOM PERIOD



PRIMARY PLANTS

Achyranthes Aspera L., Chloris barbata Sw, Senna auriculata (L.) Roxb. , Digitaria longiflora (Retz.) pers., Abutilon indicum (L.) Sweet

MATRIX PLANTS

Sida Rhombifolia L. , Dactyloctenium aegyptium (L.) Willd.

WILD RUMPUS
SPONTANEOUS PLANT COMMUNITIES

PLANT CARDS

***Gomphrena celosioides* Mart.**

Prostrate Gomphrena, Prostrate Globe Amaranth

Herb

Bed 20

Top - Bottom : (1) Site image
(2) Macro image

Ecological Characteristics

Origin : naturalized, native to Brazil

Habit & Habitat : perennial, grows in open dry places, deciduous forests and also in plains

Light : full sun

Temperature : heat tolerant

Soil : clayey and loamy

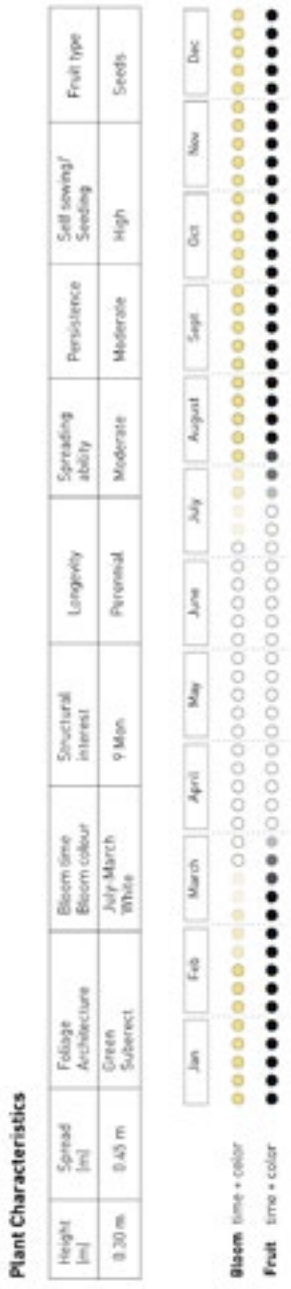
Soil pH : grows well in all pH soil types

Moisture : dry to moist conditions

Drought Tolerance : high tolerance levels

Wildlife value: pollen source for bees

Notes : flowers are cylindrical white, papery and woolly



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Karmavir Ghatge and Associates, Vadodara
| kgastudio.in

RESTORATION OF MANJALPUR TALAV

VADODARA

With the objective of inviting ideas from local citizens of the city of Vadodara for the development of a dying *talav,* Municipal Corporation constituted a *Citizen's Cell* in 2017. On behalf of the IIID-Vadodara Chapter, with its few architect members, including Karmavir Ghatge, landscape architect based in the city responded to the call. Revival of an urban pond was one such idea that was taken up by his office and was implemented by the Municipal Corporation.

As in the case of many Indian cities, the existing pond was dried up over a period of time due to many factors. It was used as a garbage dump yard by the Municipal Corporation. The main idea for the project was to address the core environmental issue, health of the deteriorating water body with various methods, making it an active public space and with least amount of hard construction. After studying the site with the pond and its open area and the immediate surroundings, two catchment points were identified on the peripheral road from where surface runoff could be tapped and fed in the pond. After sieving the plastic waste and debris, it is carried into a collection tank, which allows heavy waste materials to settle down and the rest flows through another sieve and into the pond.

SITE CONTEXT

TOP |

YEAR 2001

Where it was a bigger lake before the town planning was introduced in the area

ABOVE |

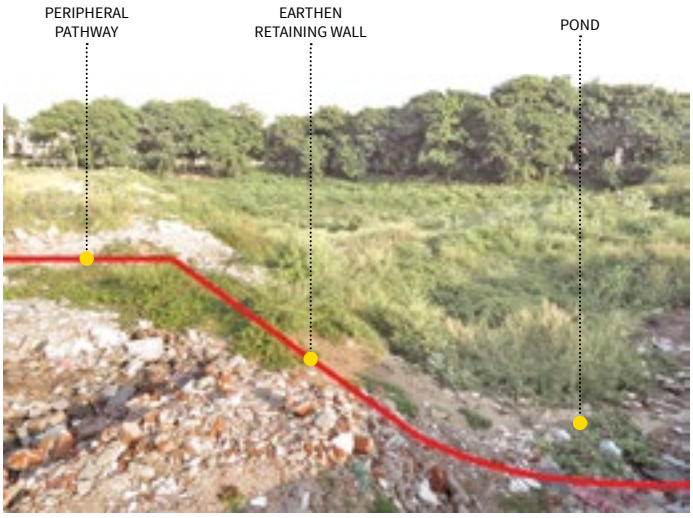
YEAR 2020

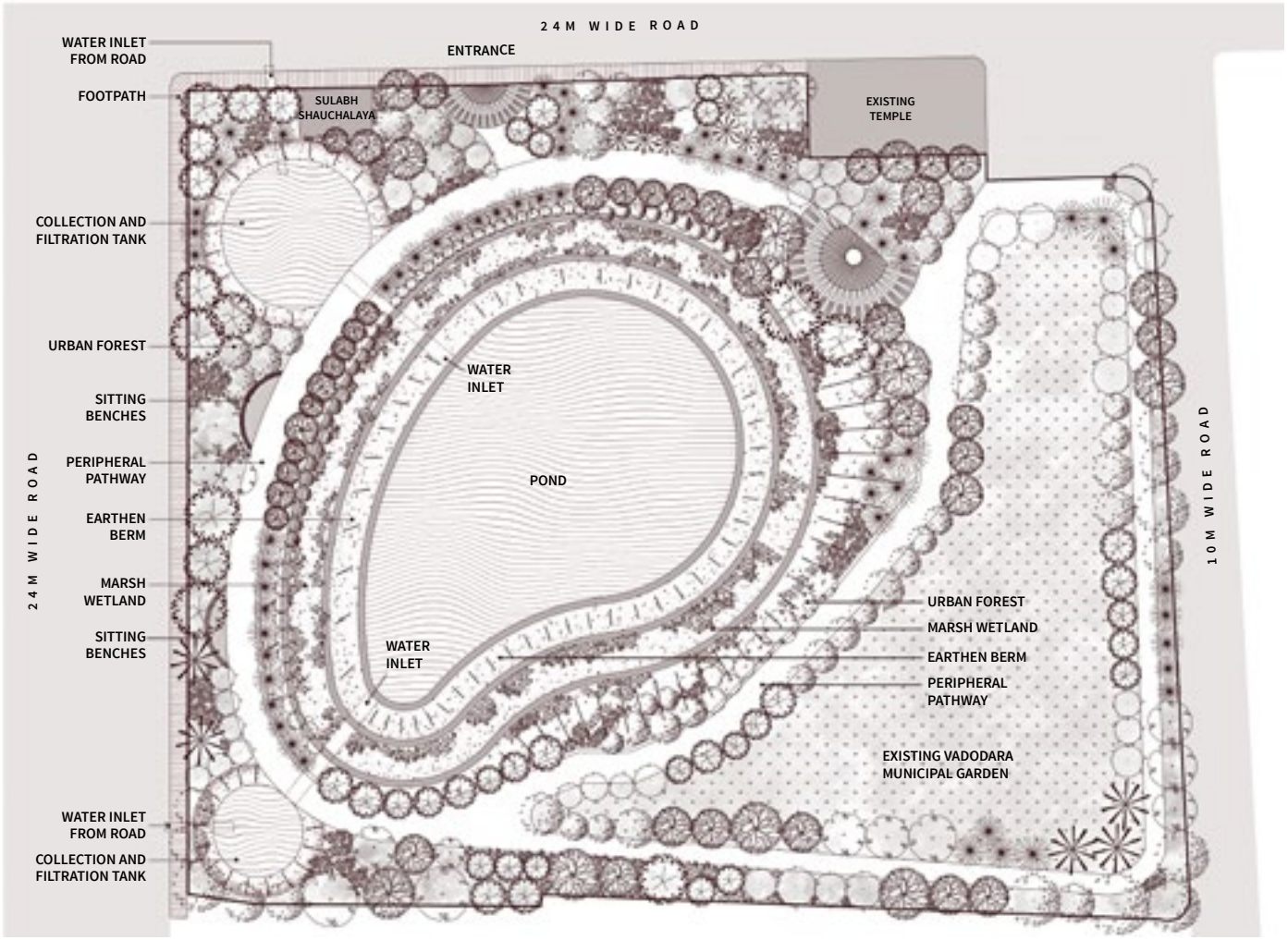
Proposed to scheme introduced a road through the pond cutting it into two parts which disturbed the natural drainage patterns and hence ensured drying up of the pond. The image showcases a healthy urban water body after the appraisal of the dried up dump yard.

BELOW |

EXISTING SITE CONDITIONS

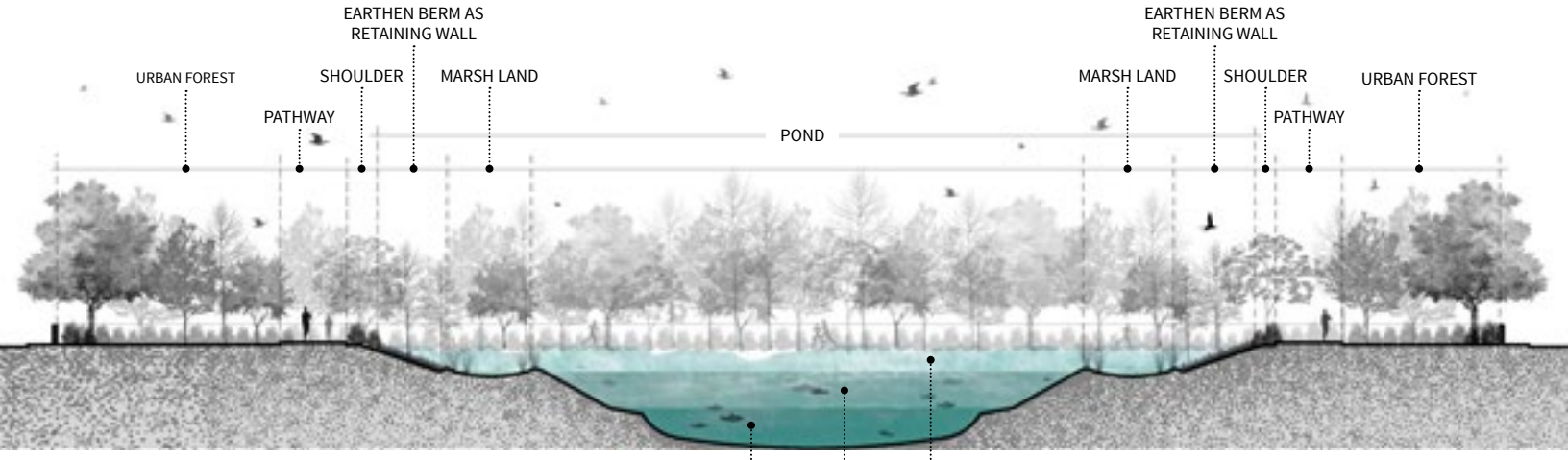
This site was an existing pond in the 2000s. The site was used by the municipal corporation as a garbage dump yard for civil debris, which further degraded the soil quality. The red lines indicate the proposed sections.





PROPOSED SITE LAYOUT

0 5 10 20
M



PROPOSED SITE SECTION

Process

The edges of the pond were created with appropriate soil grading with earthen retaining walls which could easily hold on to the water pressure. Further stabilization of these slopes was done with the use of various species of grasses, shrubs and ground covers with spreading toot systems so as to hold the soil to prevent its erosion. Fast growing grass species like *Chrysopogon zizaniodes [khus grass]*, *Pennisetum purpureum [gajraj]* and *Cynadon* species were profusely used for quick results. Over a period of time, trees on the upper and middle levels of the slope also added to the stabilization of soil. A part of this site is also dedicated to creating a mini urban forest with dense planting and a loop of pathway. More than fifty different species of trees are introduced, comprising of a combination of evergreen, deciduous and flowering trees. Involvement of professionals that have adopted an environment friendly and sustainable approach has drastically reduced the estimated cost of the project. The area is gradually becoming a biodiversity hub and is being actively used by neighbourhood areas.

BELOW | ROW-1
PROCESS
Work in progress, and Fast-growing grass species used for immediate slope stabilization

BELOW | ROW-2
SITE EVOLUTION
Monsoon: 2017 and 2019

WATER LEVELS 2019

BELOW |
Water Level after heavy rainfall: The grasses hold the soil together

BOTTOM |
Water Level after a week: The slope is retained

URBAN FOREST
[CLOCKWISE FROM TOP LEFT]
Year 2017, 2019, and 2020

TREE SPECIES USED

Adansonia digitata
Bauhinia blakeana
Bombax ceiba
Butea monosperma
Calophyllum inophyllum
Cerbera manghas
Cochlospermum religiosum
Couroupita guianensis
Jacaranda mimosifolia
Millettia peguensis
Lagerstroemia speciosa
Millingtonia hortensis
Parkia biglandulosa
Samanea saman
Pterospermum acerifolium
Tabebuia argentea
Spathodea campanulata

PROJECT SNAPSHOT

LANDSCAPE ARCHITECT: **Karmavir Ghatge and Associates**

TOTAL AREA: **4.8 acres**

AGENCIES: **Vadodara Municipal Corporation**
Office of Director, Parks and Gardens
Office of Executive Engineer, Special Cell

NURSERY: **VMC and Forest Nursery, Vadodara**

PROJECT COST: **₹34 Lakhs**

PROJECT DURATION: **5 Months [2017]**

PROPOSED WATERBODY DESIGN
AREA OF WATERBODY: **6,660 sqm**
PERIMETER: **310 m**
PROPOSED DEPTH: **4.2 m**
CURRENT DEPTH: **7.2 m** [Further deepening in 2019]
ACHIEVED STORAGE: **47,952 cum**
SURROUNDING LANDSCAPE AREA: **10,280 sqm**

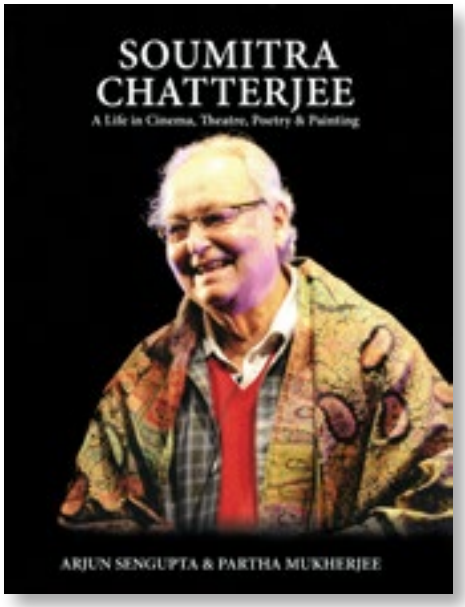
Drawings and images courtesy of Karmavir Ghatge and Associates

SEEING THE **UNSEEN**

Review by Sourav Roy, Cultural Researcher
| will.get.back@gmail.com

THE "LAST RENAISSANCE" MAN?

Soumitra Chatterjee: A Life in Cinema, Theatre, Poetry & Painting outlines the journey of Soumitra Chatterjee, the actor, with his impressions and inspirations in his formative years followed by his various professional associations and collaborations.



SOUMITRA CHATTERJEE:
A LIFE IN CINEMA, THEATRE, POETRY
& PAINTING
Author: Arjun Sengupta & Partha Mukherjee
Published by Niyogi Books, 2020
Size: 180 x 240 mm, 186 Pages
Hardcover
ISBN: 978-93-89136-76-0

In a zany scene of *"One Hundred And One Nights"* [Agnès Varda, 1995] a wrangle ensues over which character actor in which film was influenced by whom and when and how and why. Right then, a Jacques Prévert poem warns us: "Actors aren't people. They're at once everyone and no one." Unheeding, this book progresses to cast Soumitra Chatterjee in the role of a "Reanaissance Man".

With historical, analytical, narrative, conversational and anecdotal modes – the readability and reader-friendliness of the book never flags across its twelve sections. On Amazon, readers have already rewarded it with ratings higher and reviews shinier than even Soumitra Chatterjee's own books': *"Atmaparichay"* ["My Self"] and "The Master and I".

By choosing a polymathic subtitle, restricting his Ray-related images [only 23 out of 69 photographs] and inserting a long appendix on his reading habits [rather than acting habits], the authors get set to undo the myth of Chatterjee being merely "Ray's one-man stock company" [Pauline Keal]. They thoroughly blend Soumitra's "star text" [a synthesis of an actor's on-screen and off-screen persona as defined by Richard Dyer], his other creative selves [theatre actor, painter, poet] and biographical self. Their goal is to squeeze out an 85 year long Soumitra-flavoured soft serve of 'Best of Bengali Culture' goodness.

FACING PAGE |
APUR SANSAR
The harmonious joy of reunion at the end of Apur Sansar [1959]
Photo courtesy of Ray Society

LEFT |
ABHIJAAN
Soumitra as Narsingh, one of his most successful attempts at playing against type in Abhijaan [1962]
Photo courtesy of Ray Society

BELOW |
SONAR KELLA
English language poster of Sonar Kella [1974]
Photo courtesy of Ray Society

To re-insert Chatterjee into the Tagore-Ray "Renaissance Man" tradition – just his dedicated, lifelong, high-calibre practice of more than one art forms won't do. The supreme mastery of the man in all four [if not more] arts need to be established. The authors won't stoop to hagiography either. Trouble ensues.

Soon, the fallacy of perfect coherence, deep meaning and high triumph starts to hallmark Soumitra's every public act, every private self, every on-screen and on-stage performance. His theatrical, painterly and poetic acts become both the fuel and the residue of his screen acts. And above all his creative values get neatly mapped back to his personal values, his family values, and his momentous life encounters with great men. With his sacred "ars gratia artis", restless creative quest, endless self-training and risk-taking, the Renaissance masculine greatness of Soumitra seems to become a lifelong nature-culture Fevicol bond.

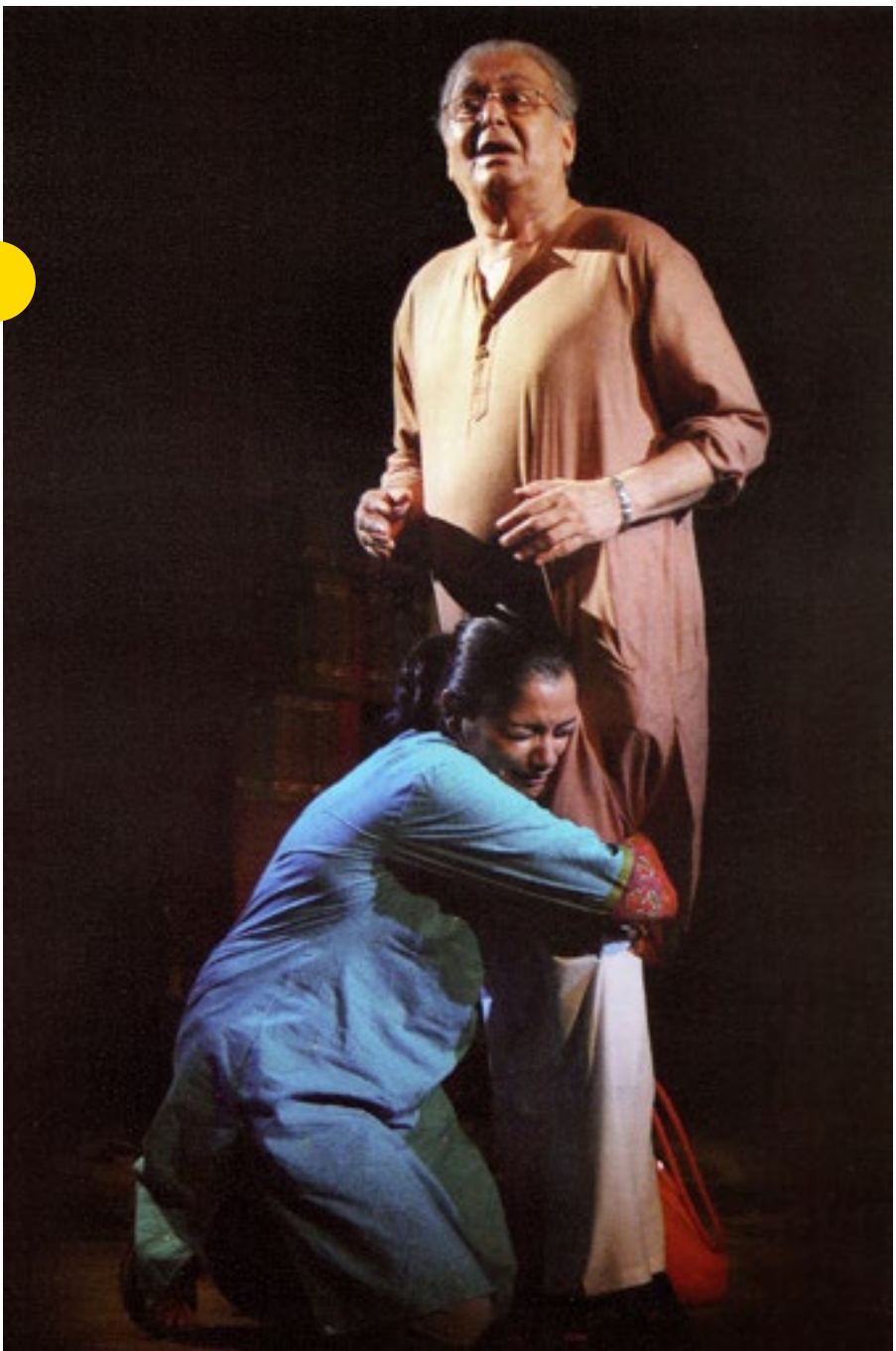
Simultaneously, role reversals happen. Mostly at his career trajectories, or his performances which are not universally celebrated or widely disseminated. His lack of success beyond Bengali Cine-world is celebrated both as a judicious career decision and an insignia of his true Bengali-ness but his two Hindi and one Anglo-French film are underlined with great emphasis. His "realism" [both as an acting style and as a personal aesthetic

RIGHT |
GANASHATRU
Soumitra with Dhritiman Chatterjee in Ganashatru [1990]
Photo courtesy of Ray Society

philosophy] is endlessly celebrated throughout] but when it faces a problem in theatre and *jatra* bringing forth immediate adjustments, it is termed as pioneering neo-realism. Long-winded defence to deflect all possible critiques of *"Aranyer Din Ratri* [Days And Nights In The Forest, 1970]" and *"Ghare Baire* [The Home and The World, 1984]" are produced as if without that, Soumitra's sterling performances in them would be somehow diminished. To add darkly alluring gloss on his overwhelmingly goody-two-shoes "star text" – *a bhalo chhele* in youth, a *bhadralok* as a grown man and a "beleagured, principled" victim at his old age – encomiums and word counts are heaped on his portrayals of the "other"-s to this middle-class, educated, cultured, Bengali masculine ideal – the villainous Mayurbahan in "*Jhinder Bondi* [Prisoner of Jhind-1961]", the loafer Subir / Montu in "*Teen Bhubaner Parey* [Beyond The Three Worlds, 1961]", the irascible Narsingh in "*Abhijaan* [Conquest, 1962] and the imposter Ajay Sarkar in "*Akash Kusum* [Cloud Castle, 1969] – mere footnotes in his oeuvre. Sprinkling of the accounts of his self-righteous physical brawls, most famously with Ritwik Ghatak also pepper the text. His creative and career risks are framed as avant-garde but his typecast Commercial roles are framed as the ethical acts of a paid actor whom the film industry is failing collectively. And finally his disregard for autobiography and the excellence of his autobiographical stage-performance "*Tritiyo Anko Atoeb* [Act Three, Therefore, 2010]" are celebrated in the same breath.

Trying to miscast a man who has had one of the most kaleidoscopic and well-rewarded creative careers in the last few decades as someone who is both the canon and the margin, derails the authors' own Bengali Renaissance Man-making project – a cultural construct historically born out of having and harvesting all possible familial-social-cultural-economic-caste privileges throughout a life dedicated to the arts. Even an all-in-one Renaissance Man can't possibly bask in these two conflicting glories.

Hopelessly trying to join every dot, it reads like a book-length auto-biopic script on Soumitra Chatterjee where he plays himself and every other character. If that's not your tea, his films are there to re-watch.



LEFT |
THE STAGE
"The stage still has the capacity to challenge Soumitra"
Photo courtesy of Pratap Dasgupta


LANDSCAPE ARCHITECTURE IN INDIA
MONOGRAPH SERIES•
MONOGRAPH [4] | PUBLISHED IN JUNE 2021
KISHORE D. PRADHAN
SIZE: 11" X 9" | PAGES: 220 | ALL COLOUR | HARDBOUND
• The monographs in the series profile design philosophies, works and experiences of eminent landscape architects, who have practiced in the field of landscape design and architecture. They explore their significant role and contribution in giving a sense of identity, meaning and purpose to the discipline in academics and practice in the country.
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