

# FUTURARC

The Voice of Green Architecture in Asia-Pacific

Nov-Dec 2018 | volume 63

## YEAR-END ISSUE 2018

**Inside: Urban Portraits, Hong Kong: dynamic and shape shifting | Ying Chao Kuo; founding partner and principal architect, Bio-architecture Formosana, Taiwan | In Conversation with Loreta Castro Reguera and Manuel Perlo, winners of the Global LafargeHolcim Award, 2018 | Projects by BIG, Morphogenesis, Norman Foster and Renzo Piano**

With projects from China, France, Hong Kong, India, Mexico, Taiwan, Thailand and Vietnam

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# Letter from the editor

**Dear *FuturArc* Readers,**

At *FuturArc*, we have long argued that architects seeking sustainable outcomes must first rethink how a building *talks* to the world around it. Too many, for too long, have focused primarily on what happens within site-and-shell. Reimagining *relational function*—how a building behaves as a part of a wider system-of-systems—should be a prerequisite. In this pursuit of *civic-mindedness* and *generosity* (terms that architects WOHA use to describe outcomes of relational function), *form is key*.

The pursuit of form is too often lost in *-isms* and style, framed by subjective judgement and aesthetic preference. But this is not enough; and it grows increasingly anachronistic at a time when we face the dual crises of climate change and ecological degradation.

So what can be done? What should form do? How might it shape outcome?

The Naiipa Art Complex and Inter Crop Office (page 42) in Bangkok shed some light on this. Here, the building is fragmented or fractalised. Fragmentation is the breaking down of large forms into many smaller ones. This can be used to delineate an inner space, a landscaped court that is potentially a habitat for other species. With the creation of a green patch, occupants of the buildings have greater access to daylight and views, and can open up the interiors to natural ventilation. Fractalisation is the breaking down of compact, orthogonal geometry into more complex shapes with greater surface-to-volume ratio. The new surfaces created here can act as spill-out spaces for occupants—they shade the envelope and become surfaces for food cultivation or habitat creation.

Other projects ahead engage in similar acts of form innovation. The Surat Diamond Bourse (page 82) is a fishbone arrangement of blocks that yields eight landscaped courts. The K11 Atelier King's Road (page 72) fractalises the lower half of the office tower for more inclusive public spaces and greenery. The House in Chao Duc (page 92) has an intricate skin that can transform its porosity, altering the relationship of inside to outside.

The Main Feature is an Urban Portrait of Hong Kong, a city that reveals itself to be dynamic and shape shifting (page 14). The spatial organisation of its streets changes from day to night; spaces used for pedestrian movement during the week are transformed for social gatherings on weekends. The form of this city is partly an act of design, partly an act of interaction of people to people. Conversely, the design of Amaravati, a new capital city for a southern state in India (page 74), is questioned by our writer. How much will this city, when completed, yield to the everyday realities of India? Where will the informality of India cities reside within this very formal city?

Arguably, each of the projects ahead could do more, and their impact on the wider system-of-systems could be better documented. But they are, we think, an important first step in discussing the role of the architect and urban designer in the making of sustainable design.

**Dr Nirmal Kishnani**

Editor-in-Chief

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The Voice of Green Architecture in Asia-Pacific

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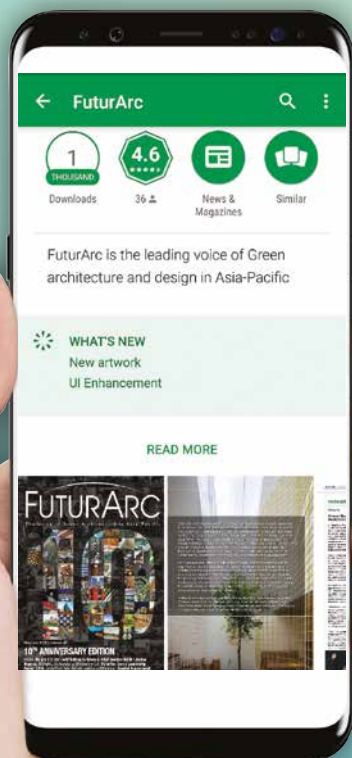
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Founding Partner of Bio-architecture Formosana (BAF)  
and Principal Architect, AIA

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# Urban Portraits:

by Barton Leung and Kenneth Leung







# Hong Kong







# The FuturArc Interview

## Ying Chao Kuo

**Founding Partner of Bio-architecture Formosana (BAF) and  
Principal Architect, AIA**

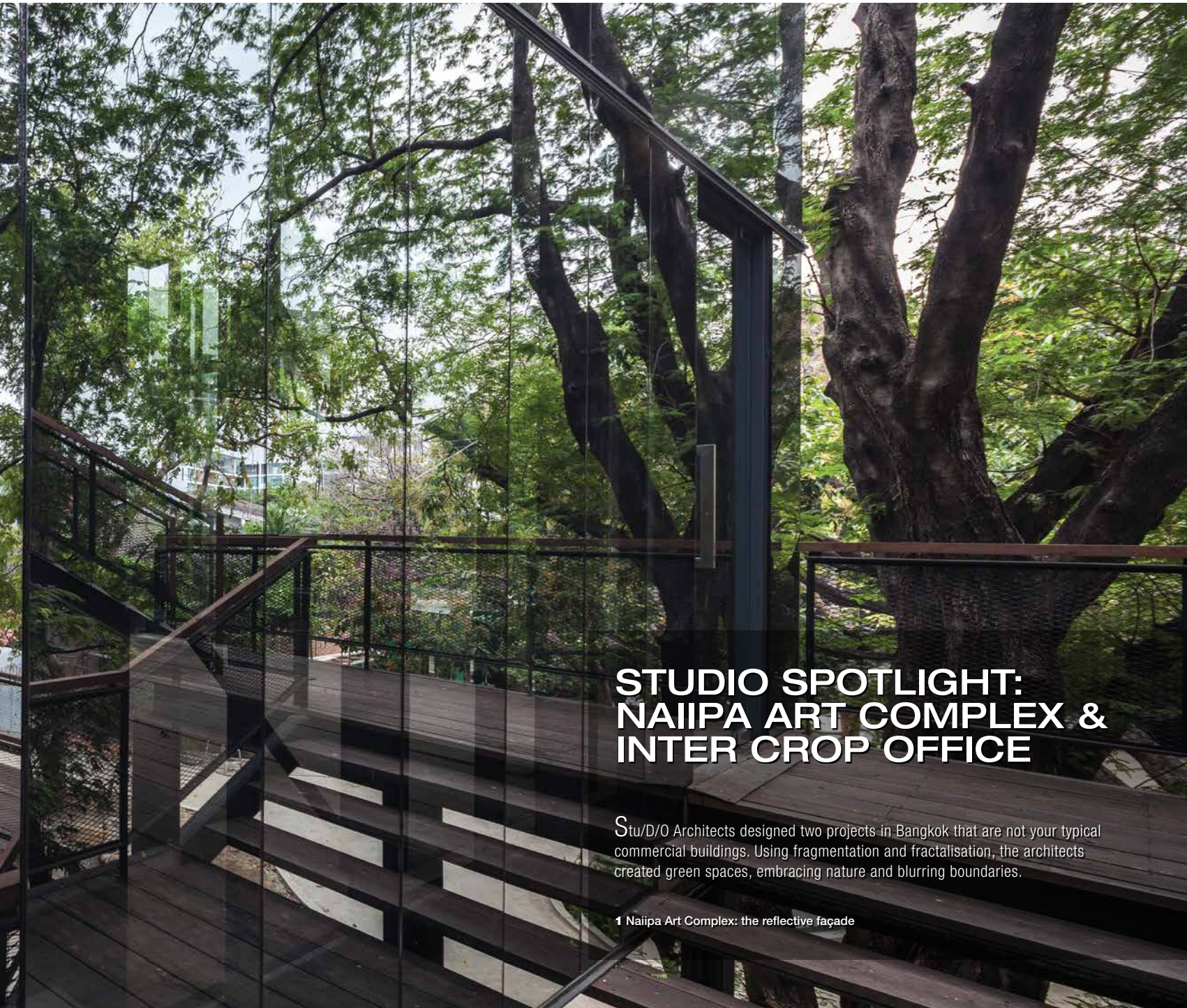
**By Candice Lim**



**THAILAND**







## STUDIO SPOTLIGHT: NAIIPA ART COMPLEX & INTER CROP OFFICE

Stu/D/O Architects designed two projects in Bangkok that are not your typical commercial buildings. Using fragmentation and fractalisation, the architects created green spaces, embracing nature and blurring boundaries.

1 Naiipa Art Complex: the reflective façade



**CHINA**





The background image is a photograph of a large, industrial-style interior space. It features high ceilings with exposed concrete beams and a series of vertical supports. A person is walking in the foreground, slightly blurred, suggesting movement. The space appears to be a large hall or a museum gallery.

## 798 ARTS DISTRICT VISION PLAN

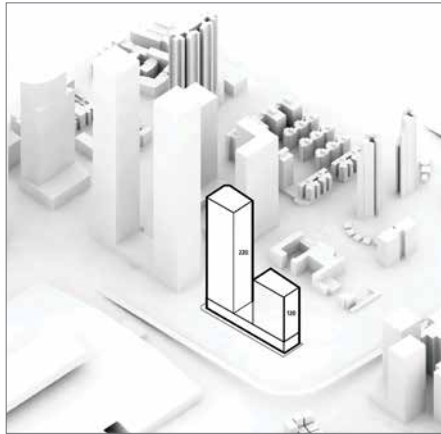
At the time of the plan's development, Beijing developers were razing and rebuilding much of the city. Rather than tear down the industrial infrastructure and historic buildings influenced by Russian and German presence in the area over the years, Sasaki proposed preserving as much of the existing infrastructure as possible to capture the spirit, history and character of the place. The interdisciplinary team of planners, urban designers and landscape architects crafted recommendations that married programme and massing in consideration of interstitial spaces and circulation routes. The 798 Vision Plan outlined how the community might evolve over time—from a series of derelict factory buildings to a cultural destination and, eventually, a thriving mixed-use community.

In 2004, the district faced demolition due to obsolescence. Public outcry and the intervention of several prominent cultural organisations helped spare the area from the wrecking ball. An initiative led by the owners of the Ullens Center for Contemporary Art helped the landholder reimagine the space. Planners sought consensus by proving that an adaptive reuse strategy was a better option than demolition, and that the area could still attract jobs, increase land values and evolve.

**1** Large-scale art installations at public plazas emphasise the arts as the district's main theme



**CHINA**



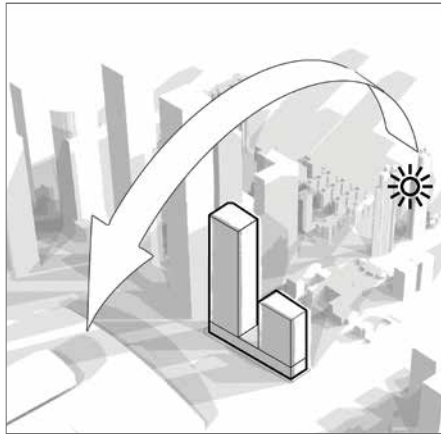
**TOWER VOLUME**

The building site is located at the south gate of the political, cultural and business centre of Shenzhen, and north-east of the crossing of Binhai and Jintian Road. A podium and two towers rising 220 and 120 metres tall define the maximum building envelope and align with the city's planned height profile.



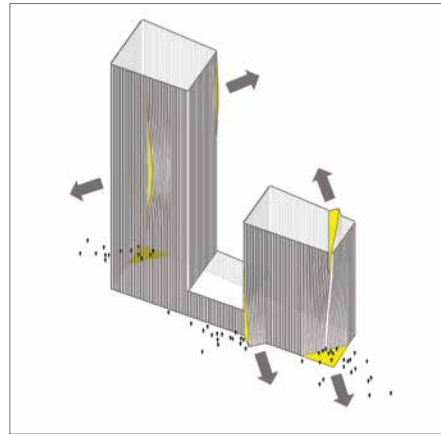
**GREEN ROOFTOPS**

Green areas for recreation surround the site in the dense forest of towers. By utilising all three roofs of the building volume as green parks, the building site can stay green even when fully developed.



**SUNLIGHT**

The site is located directly facing east and west. During the mornings and evenings, there is a low sun on the east and west façades. By mid-day, the sun is at a steep angle on the smaller south-facing façade.



**ENTRANCES AND VIEWS**

From street level, a series of walls are pulled open for visitors to enter the commercial spaces while professionals enter from the front plaza into the daylight-filled lobby. Within the protruded areas of the building, the façade is stretched out—two smooth deformations create large spaces for excellent views on each floor, meeting rooms, executive clubs and staff facilities.



# SHENZHEN ENERGY MANSION

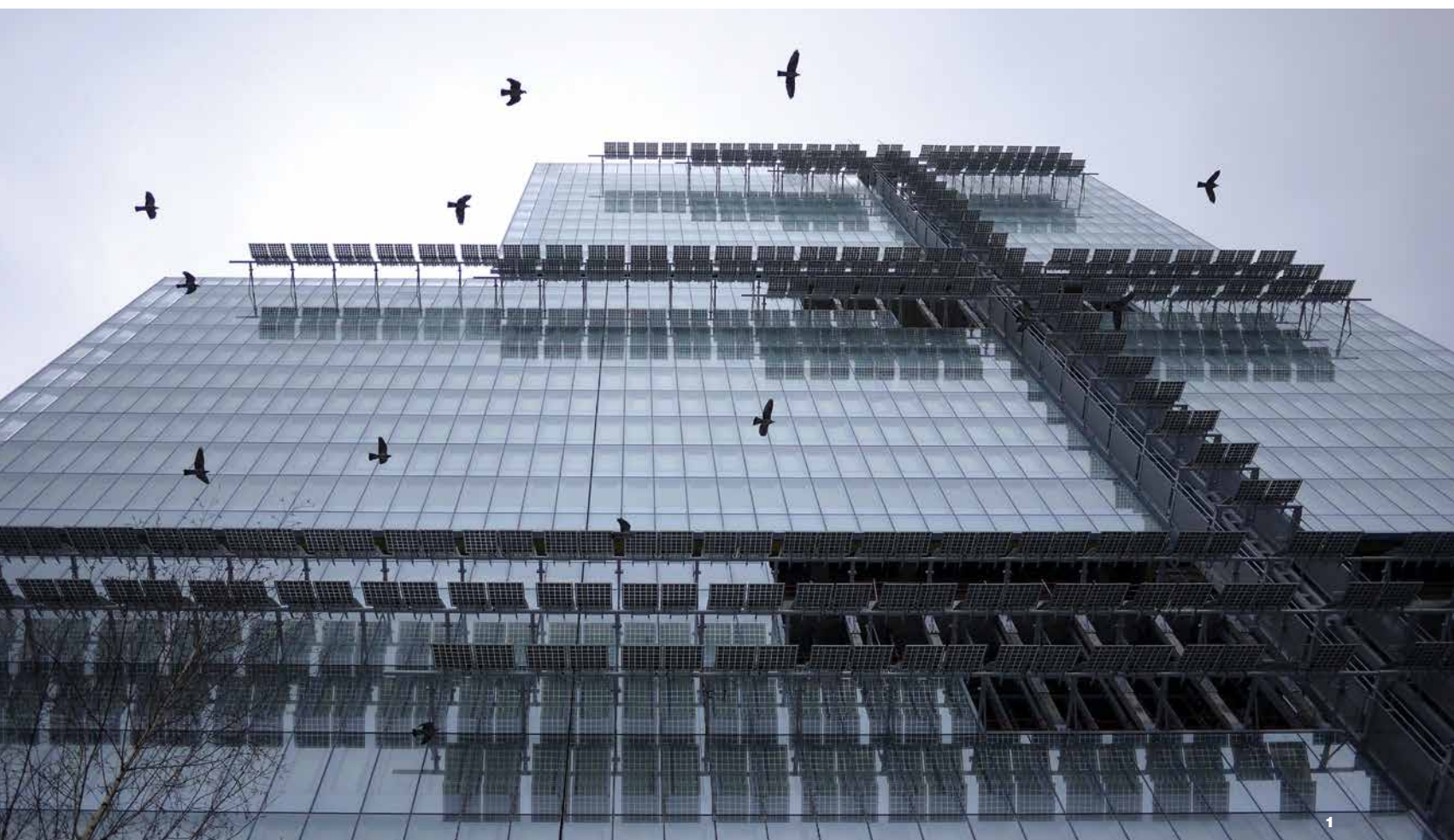
by Y-Jean Mun-Delsalle

Designed by Bjarke Ingels Group (BIG) as a 'green' landmark serving as a model for the 21<sup>st</sup>-century skyscraper, the state-owned Shenzhen Energy Company's headquarters in the cultural, political and business centre of China's Silicon Valley features an undulating building envelope, created to maximise sustainable performance and workplace comfort. Having won the international competition with ARUP and Transsolar in 2009 and begun construction in 2012 before completing the office development six years later, BIG steered

1 Conceptual diagrams 2 External view









# PARIS COURTHOUSE

by **Y-Jean Mun-Delsalle**

Europe's largest law complex, the 160-metre-tall Paris Courthouse skyscraper by Renzo Piano Building Workshop (RPBW) that opened last April, has reunited the various activities of the French capital's judiciary system under one roof. They had previously been dispersed throughout the city due to a shortage of space in its historic seat on Île de la Cité (which continues to accommodate the Criminal Court, Court of Appeals and Supreme Court). Bringing together the regional court, police court, public prosecution courts and district courts of each arrondissement, its location on a L-shaped site beside the Martin Luther King Park and the ring road in the Clichy-Batignolles urban development zone on Paris' northwestern edge (in what was formerly an abandoned railway area) places it at the crossroads of the city's administrative districts and suburbs. It is part of a new eco-district currently under construction, which will comprise housing, offices, shops as well as a metro and tram station.

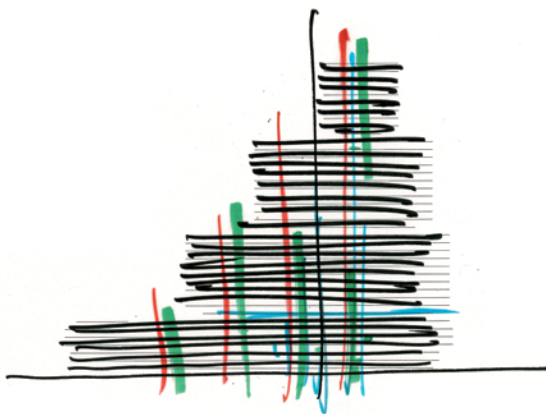
The French government had initially proposed splitting the law courts into two distinct buildings—the first to house public functions such as courtrooms, and the second, offices—but RPBW chose a single integrated edifice, welcoming up to 8,800 people daily including 2,000 employees, which through its size and status would come to symbolise the point of departure for the rehabilitation and redevelopment of the Porte de Clichy neighbourhood.

Having won the competition in 2011, the architects wished to set a new benchmark for energy consumption in a tall building and to lessen the visual impact of the tower against the skyline. They did this by designing a series of four stacked glass volumes that diminish in size as they rise upwards to form a step-like profile. From the park, the courthouse blends into its surroundings as it has a slim profile, with the smallest façade oriented to the south to reduce the solar factor, while giving users the best views of Paris: the Eiffel Tower for those on the east side and Montmartre for those on the west. Every office has a window with unobstructed views, as the immediate area is free of high-rise developments.

The east and west façades of the top three blocks stretch beyond the building to produce fine glass 'frames' that heighten the sense of lightness. Each of the

three volumes is only 22 metres deep so that natural light touches the core easily, with two vertical 'spines' running up the sides of the east- and west-facing glazed façades lined with extremely visible solar panels—never been done before on the façade of a high-rise—that display a desire to shift toward using renewable energy in public buildings. The east side houses an external lift with panoramic views, while the west side includes balconies to insert agreeable outdoor spaces. Further promoting well-being are semi-outdoor relaxation areas like double-height winter gardens. The tower includes communal areas, a restaurant, cafeterias, a library and meeting rooms.

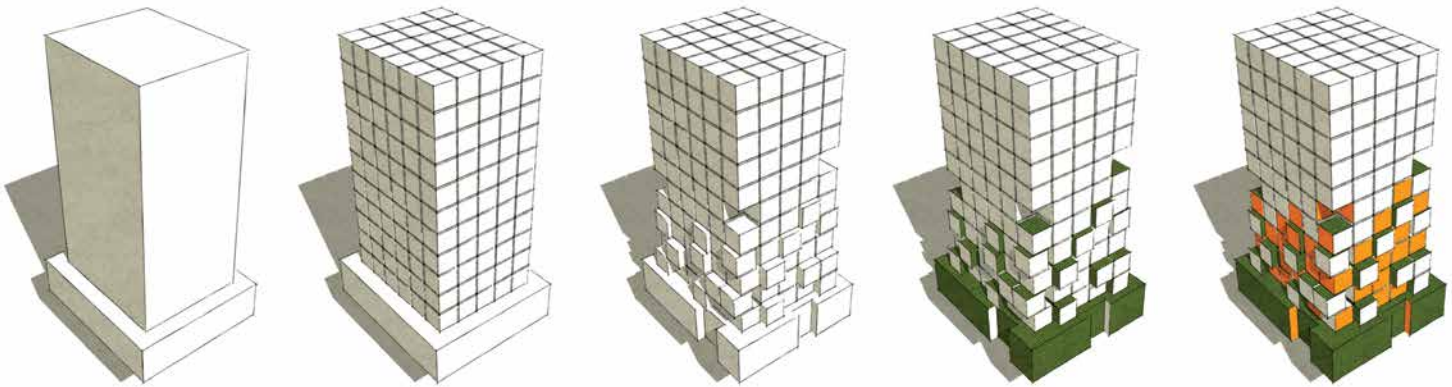
**1 Façade view 2 Sketch**



**2**



## HONG KONG



Simple tower & podium massing

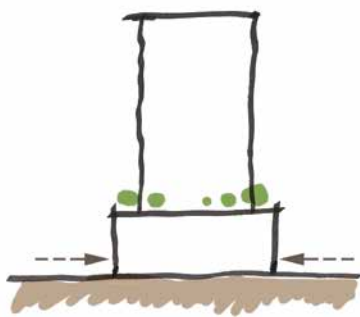
Break down the massing into cubes of smaller scale

Moving the cubes in & out to create recesses & projections

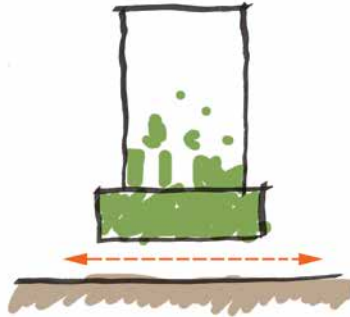
Introduction of greenery at different surfaces, forming a gradual change of greenery pattern from the bottom to the top

The greenery benefits the working space in physical and visual senses

1



**CONVENTIONAL**  
No dialogue between the building & the streets, creating a wall effect to street level



**FLOATING GREEN**  
Encourage visual and physical transparency of street level, creating a green focus for pedestrians & users

2



3



# K11 ATELIER KING'S ROAD

As a commercial redevelopment project, K11 Atelier King's Road addresses some of the common issues of office buildings, such as sub-par indoor environmental quality for human health; isolation from the local community; and underutilisation of space during non-working hours.

The project is the world's first building to have achieved the WELL Building Standard's (core and shell) Platinum level (i.e., highest) pre-certification. This generally means the project has adopted features recognised by each of the WELL concepts ([www.wellcertified.com](http://www.wellcertified.com)). Highlights include the inclusion of a fitness trail on the rooftop; demand-response ventilation to ensure a high indoor air quality in both common and tenant areas; and the consideration of healthy eating by including an urban farm and attracting F&B tenants with sustainable food options. In addition to building design, management plans have been created to ensure that the operations will promote the well-being of tenants.

Green coverage at the rooftop farm and fitness area serves to encourage occupants to embrace a low-carbon and mindful lifestyle. The rooftop will also be installed with a wind turbine and solar photovoltaic thermal panels (PVT) to partially support the building's energy consumption. A wide variety of health and wellness elements are incorporated into the building design, including indoor air quality; acoustic intrusion; thermal and olfactory comfort; health nourishments; fitness; glare preventive light, etc. Based on computational fluid dynamics analysis, a microclimate modifier is designed to purposely enhance the thermal comfort and maximise the usable period of seating areas. By incorporating various seating options, occupants can enjoy the comfortable sky garden throughout all seasons. Urban farming, together with healthy food vending, provides fresh and healthy food choices for building occupants while engaging them with farming/gardening. A smart building environmental performance dashboard incorporated with various sensors informs occupants about the real-time environmental conditions in building and health-related news.

Pre-certified to both the Hong Kong BEAM Plus and the U.S. LEED Green building standards, K11 Atelier King's Road allocated about 20 per cent of its material costs on regional supplies (excluding furniture and mechanical, electrical and plumbing or MEP materials) to reduce its carbon footprint. In terms of waste management, about 70 per cent of construction waste (excluding excavation waste) was recycled and diverted from landfills based on BEAM Plus and LEED requirements to minimise the building's environmental impact.

The project achieves energy savings of 34 per cent against international best practices of ASHRAE by bringing together passive and active designs, as well as renewable energy systems. Architectural setback and large glazing provision as passive design features welcome daylighting for circadian health and energy savings. As for active design, the building adopts the use of LED lighting, free cooling, oil-free chiller, etc., to reduce its energy use. With the rooftop PVT hybrid solar collector system of approximately 230 square metres, the renewable energy generated can power up to about 1,280 typical 16.5-watt T5 LED light tubes. The system can contribute to 1.3 per cent of the total building's energy consumption. A reduction of 65 per cent potable water consumption is achieved with the use of water recycling and water efficient systems, including drip-type irrigation system, rainwater harvesting system, low-flow fixtures, etc. Food waste is collected and converted into fertiliser for composting the urban farming in the edible garden. BIM is fully utilised throughout the project development, from planning and design to construction coordination and handover of the project.

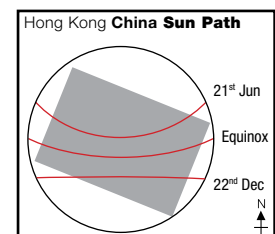
The project owner will also introduce Hong Kong's first Sustainable Tenancy Pledge to provide free smart metering service to tenants who are interested in receiving support to reduce energy use and waste generation, and engage its employees on wellness and cultural activities.



## PROJECT DATA

**Project Name**  
K11 Atelier King's Road  
**Location**  
728 King's Road,  
North Point, Hong Kong  
**Status**  
The R.C. superstructure complete  
**Expected Completion**  
End 2019  
**Site Area**  
Approx. 3,019 square metres  
**Gross Floor Area**  
Approx. 45,285 square metres  
**Building Height**  
Approx. 125 metres  
**Owner**  
New World Development Company Limited  
**Architecture Firm**  
P&T Architects and Engineers Ltd  
**Principal Architect**  
P&T Architects and Engineers Ltd  
**Main Contractor**  
New World Construction Company Limited  
**Mechanical & Electrical Engineer**  
Ove Arup & Partners Hong Kong Ltd

**Sustainability Engineer**  
Ove Arup & Partners Hong Kong Ltd  
**Civil & Structural Engineer**  
C M Wong & Associates Limited  
**Images/Photos**  
New World Development Company Limited



**1** Conceptual diagrams showing the project's design evolution **2** Concept sketches showing the design approaches **3** Concept sketch **4** Exterior perspective



# AMARAVATI

by **Bhawna Jaimini**

The new state capital of a Southern Indian state is heralded as the most sustainable city in the world. After Jawaharlal invited the Swiss-French architect Le Corbusier to build Chandigarh in the 1950s, Amaravati is the second 'built city' of a massive scale to come up in India. Though five decades have passed since the dream of Chandigarh was realised, the major challenge that failed Chandigarh looms large over Amaravati's future. How do you design and plan for diverse socio-cultural realities and complexities present in an Indian city?

On 2 June 2014, the state of Andhra Pradesh in Southern India was split into two. The northwestern part of the state became the 29<sup>th</sup> state of India, Telangana, and the rest continued to be Andhra. After the division, the historic capital of Hyderabad went to Telangana, leaving Andhra Pradesh in the need of a new capital. From this need rose the ambitious project of creating the 'people's capital' called Amaravati, which translates to 'the place for immortals'. Nara Chandrababu Naidu, the chief minister of the state, reiterated his ambitions on the foundation day by saying, "We have created history as we laid the foundation for our 'Amaravati', the people's capital, on 22 October 2015. We aspire to make Amaravati a true people's capital, a destination of opportunities and a city of the future. Amaravati beckons us to rededicate ourselves in this mission."

After the project of building Amaravati was announced, the state government invited three internationally renowned firms: Rogers Stirk Harbour + Partners; Vastu Shilpa Foundation; and Maki and Associates to participate in the Amaravati Governmental Complex Concept Design Competition. Maki and Associates, led by Fumihiko Maki, was initially declared as the winner but the award was later

controversially revoked. The state government then hired London-based Foster + Partners, along with architect Hafeez Contractor from Mumbai, to design the master plan and the capital complex of Amaravati. According to Norman Foster, the city of Amaravati will be one of the world's truly 'sustainable cities'. On one of his visits to the site, he remarked, "This is a design that brings together our decades-long research into sustainable cities, incorporating the latest technologies that are currently being developed in India."

The concept videos and visualisations released by the firm fit the grand and ambitious nature of the project. Towering capital complex that is designed to depict the 'A' in Amaravati, water channels and a Central Park-inspired green cover correspond with the architectural, social and economic aspirations of a government that truly wants to adopt globalisation, in both practice and theory. On the drafting board, Amaravati has been designed and engineered to achieve the idea of an urban utopia.

Both the state government and the design firms have been reiterating the slogan 'people's capital'. However, the term 'people' in India is not a homogenous term. The term includes the farmers who have given up their highly cultivable lands, the labourers who are toiling in the sun on construction sites, and millions of other men and women who will service the city for years to come. Will these people have a right to this 'people's capital'?

## BUILDING AN URBAN UTOPIA

The city is situated on the banks of Krishna River, one of the most fertile belts in the country. Krishna River is a perennial river and the location was strategically chosen to provide for the freshwater needs of the city all year round. The central feature of the city is the government complex measuring 5.5 kilometres by 1 kilometre, primarily inspired by Lutyen's New Delhi and New York's Central Park. A central green spine is designed to run through its length, forming the basis of the environmental strategy, which seeks to provide at least 60 per cent of area in soft landscaping and water-scaping. According to the design firm,

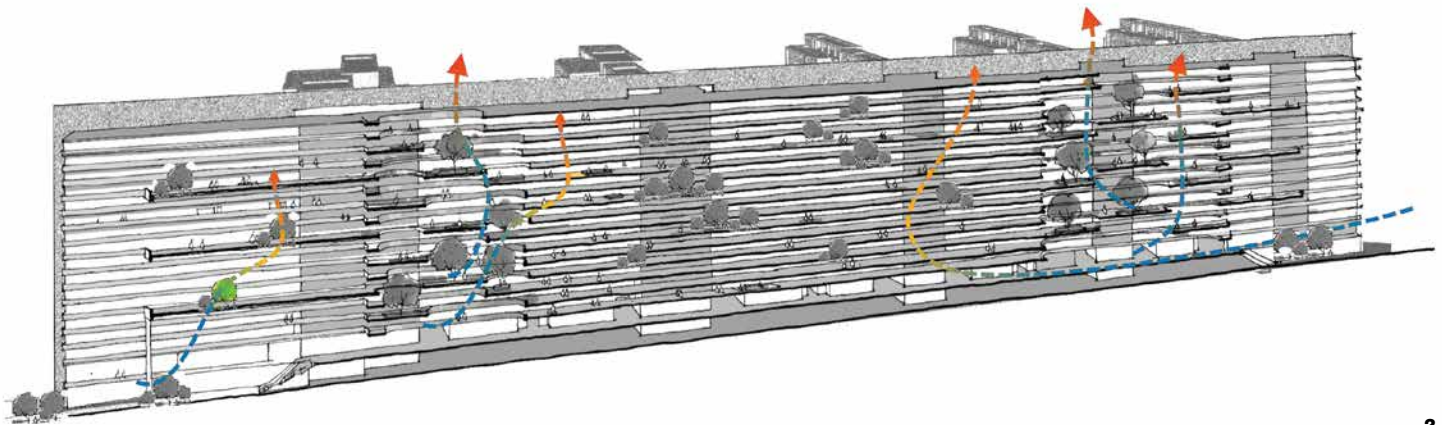
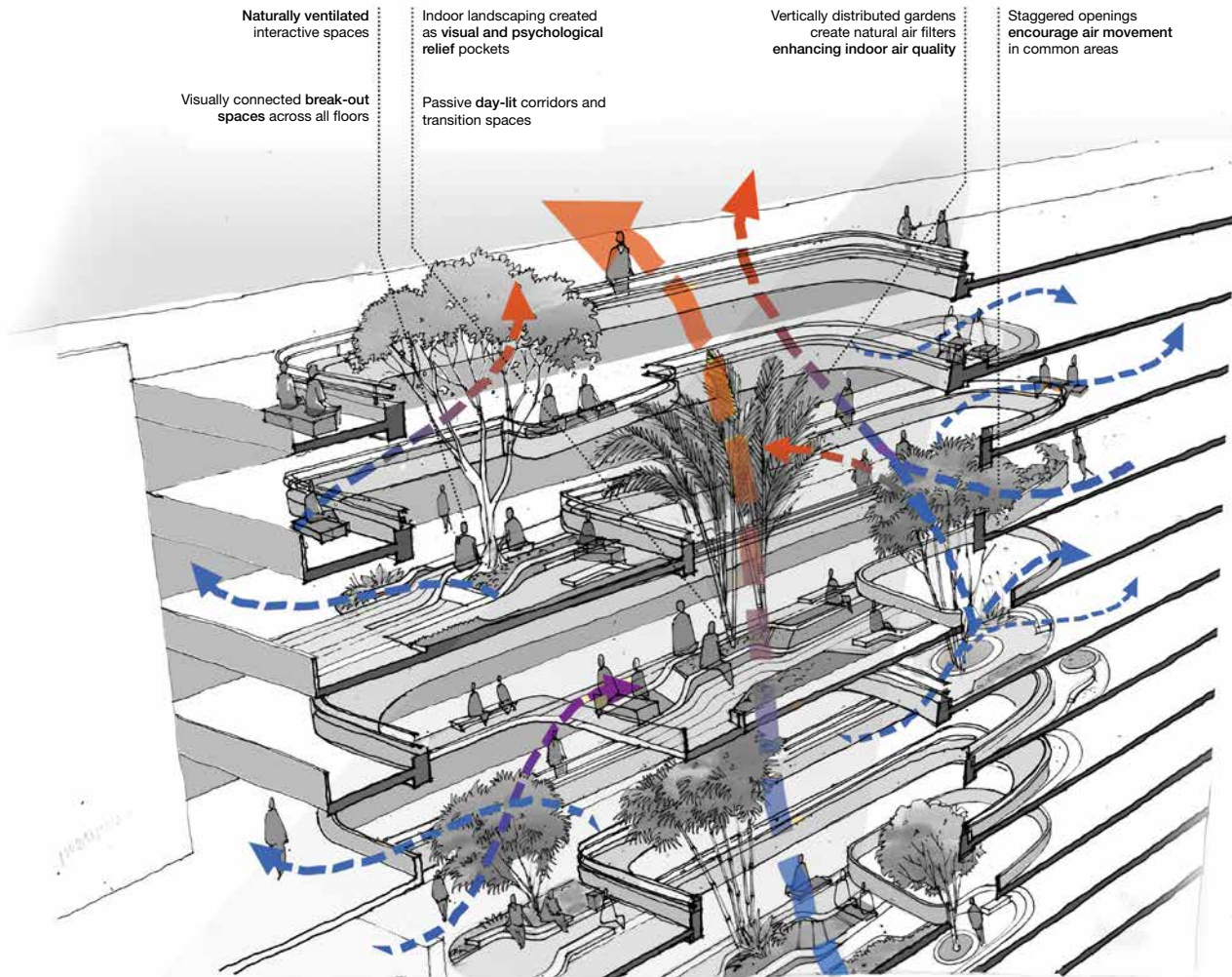
**1 Aerial rendering of the government complex**







**INDIA**





# SURAT DIAMOND BOURSE

India gives shine to 85 per cent of the rough diamonds sold globally, with Surat being the capital of this trade. Today, more than 92 per cent of the world's diamonds manufactured in Surat are traded in Mumbai and exported to countries across the globe. However, due to inadequate suitable office spaces and supporting infrastructure in the Bharat Diamond Bourse (Mumbai), traders are forced to travel every day from Surat to Mumbai. Thus the upcoming Surat Diamond Bourse—set to be the world's largest single office building—will accommodate over 4,500 offices of diamond traders, as it seeks to become the centre of the international diamond trade, ensuring that all activities of cutting, polishing and trading take place under one roof.

Situated on the national highway amidst the Diamond Research and Mercantile (or DREAM) City—an upcoming business district comprising offices, residential areas and allied facilities—the bourse aims to reduce the daily commute and be less disruptive to the social structure of the Saurashtra Patel community that comprises the majority of the traders. Forming the heart of the central business district, this project is not only an investment in the trade, but also in community dynamics. The project, once completed, hopes to provide employment opportunities and generate tourism in the area.

## SPATIAL SCHEME

Given the scale of the development, the biggest challenge was to navigate large volumes of people within the trading time constraints. Functional proximities were governed by optimising travel distances from the site entrance till the farthest possible office module within seven minutes. The strength of the design strategy lies in ensuring that the building is truly unified both on the horizontal and vertical planes, through the ease of proximity to vertical circulation nodes. The approach employed is similar to an airport terminal, resulting in walkable corridors across 15 floors.

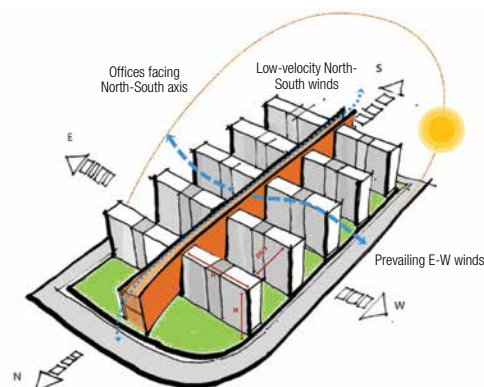
Establishing a strong connectivity, all nine towers are internally linked through a central spine with equidistant service cores. These cores ensure smooth integration and uninterrupted circulation, distributing services efficiently across all floors. The flow of people has been designed to minimise security such that once checked at the perimeter, traders are free to traverse the building multiple

times in a day. The architects' approach was to elevate the users' spatial and transitional experience across the building without highlighting the expanse of the structure. The central spine connecting all offices is designed as an interactive area comprising breakout spaces, green atria and a host of visual experiences. Dense vegetation within and around the building not only has a psychological advantage, but also improves the indoor air quality, purifying and adding to the oxygen levels. These large green atria act as relief pockets, creating natural air filters and passive day-lit transition spaces.

## BUILDING & DESIGN

The design approach lays a strong emphasis on sustainability, the use of regionally sourced and manufactured materials, with minimal waste to landfill, and efficient fixtures for water and energy conservation as well as measures to improve occupant well-being. A robust and durable form is achieved by the use of red Lakha granite and Gwalior white sandstone that have been sourced and procured locally from the Deccan Plateau in India, a rich source of building materials.

**1 Detailed cross section of the atrium** **2 Axonometric section: Landscaped atrium enhances the cross ventilation of fresh air within the building and improves indoor air quality** **3 Sunpath diagram**

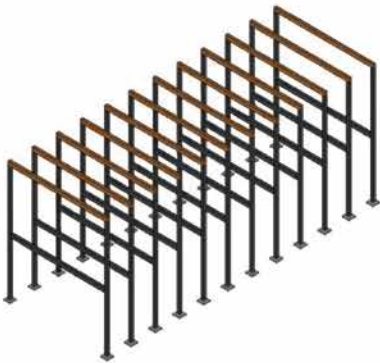


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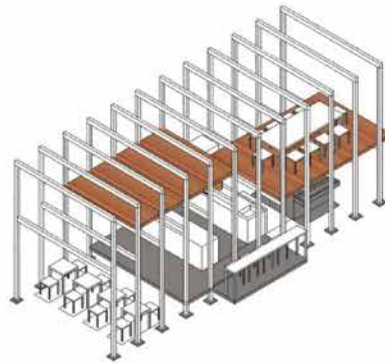
15 acres of landscape spread across nine courts



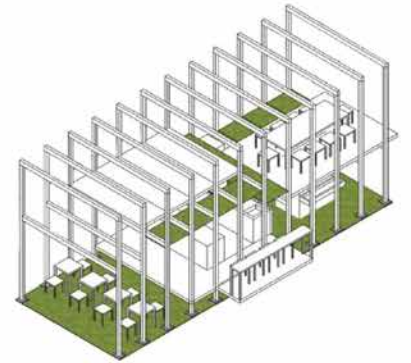
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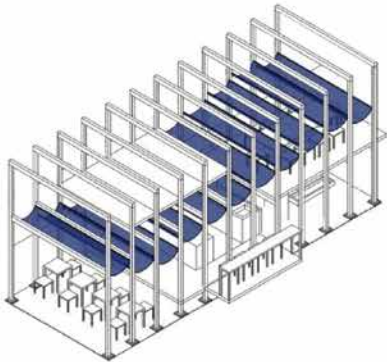
The structure of the building is a frame system designed to be a longitudinal modular system. It is both of a column and a wall.



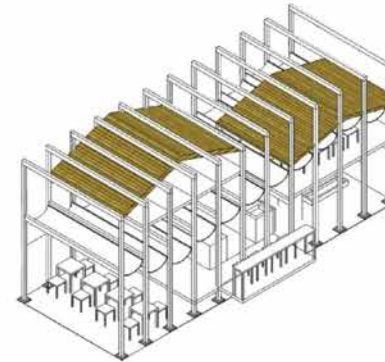
Pasang's area was designed in a structural frame in order of priority and access. The area is split into two levels; creating a cosy, warm atmosphere for the upper floor.



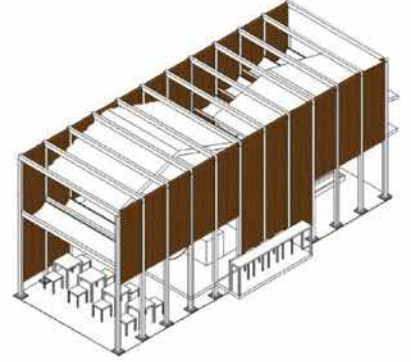
The coffee shop is surrounded by a green area. The building's interior seeks to connect with the greenery both inside and outside.



The ceiling was designed to be suspended to create a connection from the front to the back of the store, and serves to filter the natural light from the roof.



Two sets of gable roofs were placed at different levels to allow light to enter the building. The top ventilates and separates the areas of use.



The walls were designed to be breathable and well ventilated. By using wood louvres and glass louvres to attach directly to the building, they also serve to block the sun on the south side.





## PASANG

Although set in a rustic landscape of a mountainous lowland village, surrounded by small fields, fruit orchards and streams, this café building has a distinctively contemporary look—with clean lines and sharp edges made out of glass, steel and wood. Using local materials (old wood) and a natural colour palette, it seeks to be an architectural showcase that identifies with the local community as well as the context of farming and animal husbandry. The concept was based on the vernacular Lanna culture and building style, and combined with modern techniques of prefabrication, relates to the residents, whether young or old.

1 Structural diagrams 2 Exterior view



**VIETNAM**





# HOUSE IN CHAU DOC

Located in the suburban town of Chau Doc in An Giang province, Southern Vietnam, this house serves as a communal residence for three families. The architects wanted to not only have the house blend well with its environment—both in physical appearance and spirit—but also have it filled with daylight, natural ventilation and open to the surrounding views of nature, as if living in a semi-outdoor space.

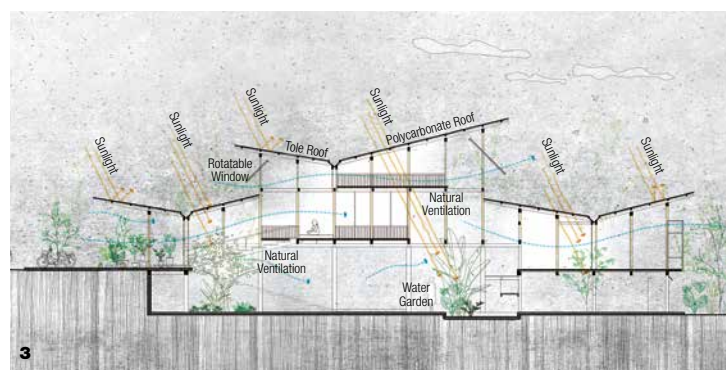
This border town close to the Cambodian frontier has been developed along a branch of the Mekong River. As such, floating homes and pilotis houses are the predominant architecture for living, set amidst riverbanks and extensive rice fields.

Based on these conditions, what the architects aimed for was to adopt the local/regional materials and methods such as the local carpenters' techniques as well as their construction methods as much as possible, while applying the following key features that differentiated the house from the rest in the neighbourhood.

- To top the house with butterfly roofs at differing heights in order to open the interior space to the surroundings, while allowing air and light in
- To install rotating metal windows from end to end at the big openings between each roof and façade to adjust the amount of sunlight and natural wind.
- To replace all the internal solid walls with movable partitions to create one big continuous space.

These three architectural principles are clearly intended to realise a semi-outdoor and contemporary space filled with natural elements such as sunlight, wind, water and plants to passively moderate ventilation, heat and glare. However, it was also important for the designers to preserve the local customs and style inside the house, such as sharing areas (kitchen; open floor space for sitting), human-scaled dimensions, floating timber frames on the concrete columns, etc. So while on the outside the house blends in with the local context via the use of corrugated metal sheets, on the inside there is a modern touch in the design features, giving it a rustic yet present-day feel.

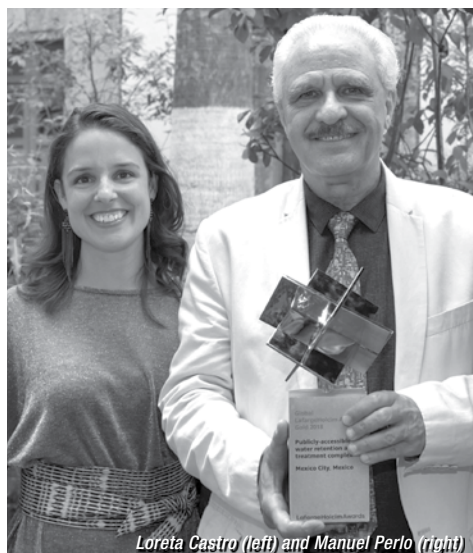
**1** Site plan of the whole area **2** Site plan indicating the house in the neighbourhood  
**3** Section





# IN CONVERSATION WITH LORETA CASTRO REGUERA & MANUEL PERLO

by **Dr Ann Deslandes**



Loreta Castro (left) and Manuel Perlo (right)

Solving a 700-year-old problem: In Iztapalapa, an eastern borough of Mexico City, which bears the brunt of the city's water problems ranging between inundation and scarcity, a multidisciplinary team of urban experts have established La Quebradora hydraulic park, an innovative water infrastructure project that is tipped to bring great benefits to a peripheral community in one of the most populated cities in the world.

La Quebradora is a soon-to-be-completed hydraulic park that is arising from a derelict, forgotten site in the Sierra Santa Catarina, a mountain range on the edge of town. Underpinned by the intriguing concept of 'hydro-urban acupuncture', the project recently won a Global LafargeHolcim Gold Award<sup>1</sup>. In Mexico City, Dr Ann Deslandes (AD) spoke to **Loreta Castro (LC)** and **Manuel Perlo (MP)** for *FuturArc*.

## **AD: What's the history of Mexico City's water problem?**

**MP:** The problem goes back 700 years, when the Aztecs decided to build a city in the middle of a swamp. It established the city's relationship with water. This relationship is not the most harmonious, but it is a statement that we're here to stay, and we know that water is going to be an issue. So that's the starting point of our story. Seven hundred years later, we are a huge metropolis of 22 million people and at least 60 per cent of the city was built on a former lakebed.

**LC:** Exactly, it's the 700-year-old problem, beginning with the establishment of Tenochtitlan, as the great Aztec city was known. We live on a lake—even though there's no more lake, the foundation is still the soil of a lakebed. And from the beginning, the city's inhabitants had struggled to get fresh water. The Aztecs, even though they had always struggled, were able to survive, using for example the *chinampa* canal system<sup>2</sup>. Their infrastructure was very sophisticated. The Spanish conquest was a total conquest: political, religious, social—and also an urban design conquest. The entire way of designing the city was completely transformed into the European Renaissance style and the canals were overrun. We started having a lot of trouble with floods. This new system disregarded, in fact, desiccated, the lakes. We originally had 1,100 square kilometres of lakes. Now, we have a bit less than 50 square kilometres. The transformation of Mexico City's landscape and waterscape had been one of the most drastic worldwide.

**MP:** Under the Aztecs, there were rivers, springs, swamps... the rivers had disappeared and now there are highways. We had beautiful springs in Iztapalapa; it looks like a desert nowadays.

**LC:** So we find today this enormous urban fabric of 22 million inhabitants and a lot of water-related issues. In a nutshell, the problems are flooding and scarcity.

## **AD: Over this long period, how have the city's inhabitants responded to the water problem?**

**MP:** Through the centuries, there have been so many efforts to solve the water problem in this city.

We disagree completely with people who say the city has been a mistake and we should try something completely different and disregard all this paradigm of huge infrastructure and just focus on harvesting rainwater and recycling water. We believe in those strategies, of course, but we cannot disregard everything that has been done to make a metropolis of 22 million people flourish. We are firm believers that the city itself, its built environment and its landscape can do a lot of things, so we should put the city in the middle of the change.

**LC:** The city is not the problem. It needs to be the solution.

## **AD: And your focus has been on Iztapalapa, the place where solutions are most urgently needed.**

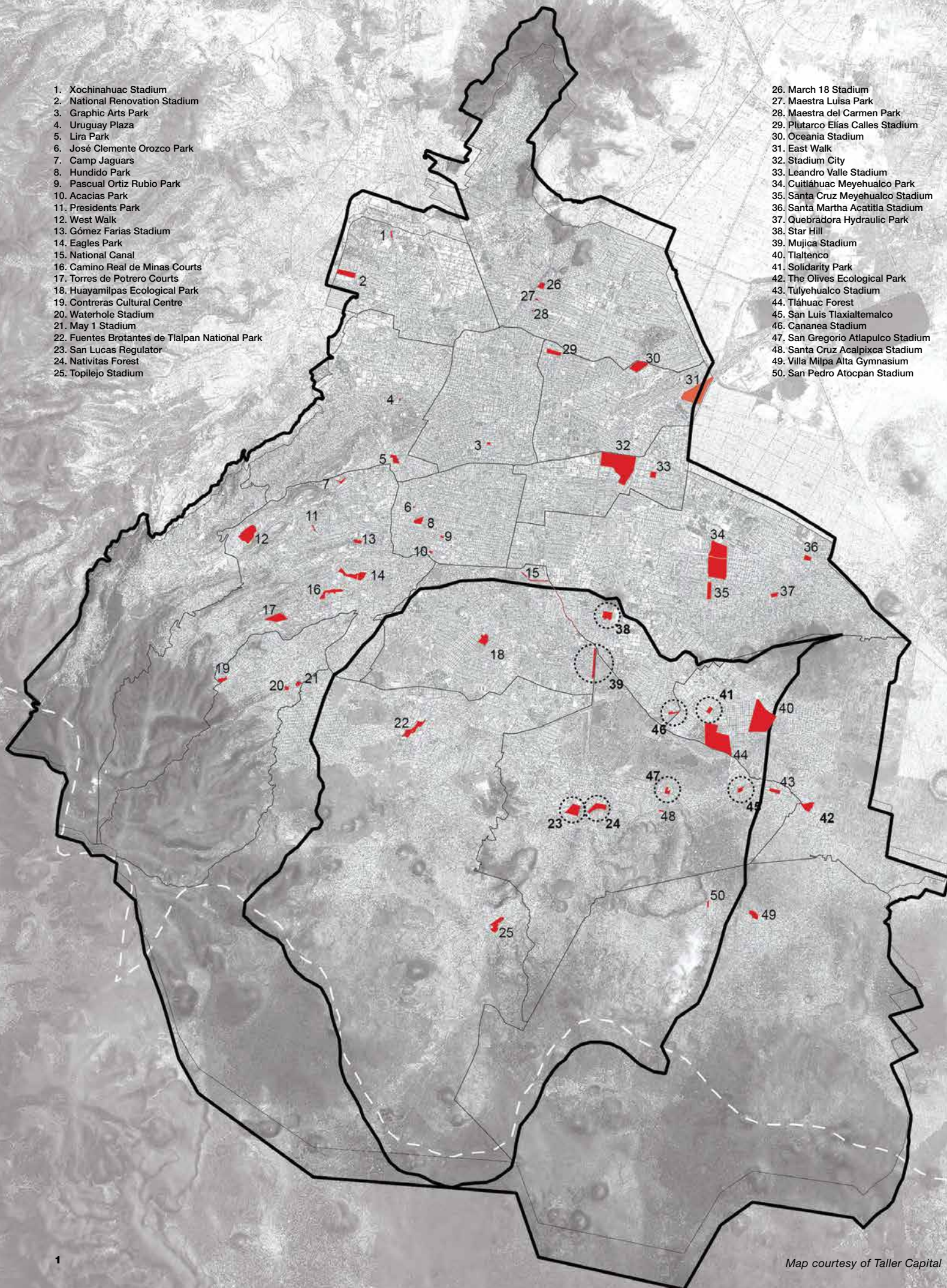
**LC:** Yes. In 2013, we had the opportunity to work in Iztapalapa, the part of Mexico City that has the most drastic

<sup>1</sup> Map of the future La Quebradora hydraulic park



1. Xochinahuac Stadium
2. National Renovation Stadium
3. Graphic Arts Park
4. Uruguay Plaza
5. Lira Park
6. José Clemente Orozco Park
7. Camp Jaguars
8. Hundido Park
9. Pascual Ortiz Rubio Park
10. Acacias Park
11. Presidents Park
12. West Walk
13. Gómez Farias Stadium
14. Eagles Park
15. National Canal
16. Camino Real de Minas Courts
17. Torres de Potrero Courts
18. Huayamilpas Ecological Park
19. Contreras Cultural Centre
20. Waterhole Stadium
21. May 1 Stadium
22. Fuentes Brotantes de Tlalpan National Park
23. San Lucas Regulator
24. Nativitas Forest
25. Topilejo Stadium

26. March 18 Stadium
27. Maestra Luisa Park
28. Maestra del Carmen Park
29. Plutarco Elías Calles Stadium
30. Oceania Stadium
31. East Walk
32. Stadium City
33. Leandro Valle Stadium
34. Cuicatlahuac Meyehualco Park
35. Santa Cruz Meyehualco Stadium
36. Santa Martha Acatitla Stadium
37. Quebradora Hydraulic Park
38. Star Hill
39. Mujica Stadium
40. Tlalenco
41. Solidarity Park
42. The Olives Ecological Park
43. Tulyehualco Stadium
44. Tláhuac Forest
45. San Luis Tlaxiátemalco
46. Cananea Stadium
47. San Gregorio Atlapulco Stadium
48. Santa Cruz Acapulco Stadium
49. Villa Milpa Alta Gymnasium
50. San Pedro Atocpan Stadium





# IN CONVERSATION WITH DEAN D'CRUZ

by **Bhawna Jaimini**



Dean D'Cruz

**Dean D'Cruz** belongs to the generation of architects who has helped set up the sustainability movement in India long before there were any rated benefits of doing so. For the first 10 years, he designed mainly low-cost houses in a Laurie Baker approach before moving on to small, low-cost hotels, which were, by their uniqueness, termed 'boutique', and then went on to design large luxurious homes and high-end hotels. However, in the last few years, he underwent a major introspection and started the journey back to where it all began. D'Cruz firmly believes that architecture has a larger role of imparting values, which can only be fulfilled while working with the communities. He is the principal architect of Mozaic, an architecture and product design firm based in Goa, and is also involved in the state's regional plan for 2021. D'Cruz talks to Bhawna Jaimini on the future of residential architecture in India, and how it has helped shape the sustainability movement in the country.

**BJ: You started from working on low-cost housing, and then moved on to designing high-end residential homes. What caused such a shift?**

**DD:** It was not a conscious effort to only do low-cost housing or what we call cost-effective housing here. In the days we started, projects with budget constraints were easy to come by, as we were not an established name in this industry then. However, it was challenging to design and execute such projects where we had to meet the needs and aspirations of our clients with limited resources, and yet make a building aesthetically pleasing. Once we were more [well] known, people with bigger budgets started coming to us, and then before we knew it, it was all the work that we were doing.

**BJ: Are the challenges of designing for these two diametrically opposite economic groups the same? What is the impact of economics on the design sensibilities?**

**DD:** I would say the challenges are completely different. When working on a small-scale, cost-effective house, our aim is to use fewer resources, minimise labour costs, which are extremely high these days, and build an efficient and functional residence. Sometimes, we also work on incremental designs where the owners have the possibility of expansion, as their family grows. This works for clients who do not have a lot of money at their disposal all at once. On the other hand, the challenges of designing for wealthy clients, who often come with the 'we will have it because we can afford it' attitude, are completely different. We struggle to minimise resource consumption because the client often wants to achieve certain budget aspirations. For example, now everyone wants centrally air-conditioned homes, leaving little to no naturally ventilated areas. In a climate like Goa, if one calculates the number of days one needs air-conditioning, the count won't add up to more than seven. It becomes more like designing for greed, rather than need.

**BJ: In the last few years, a lot of work has emerged on low-cost, eco-friendly technologies for lower-income residences. However, residences carry an aspirational value with them, which is often ignored when designing for the poor. Why do we only experiment with the poor?**

**DD:** Being rich comes with its own baggage, which dissuades one from being part of a community. Unfortunately, the more wealth you acquire, the more exclusive you want to be. This is reflected in the recently mushroomed gated communities, where one doesn't know one's neighbour. However, I strongly feel that just because we cannot work with the rich, [it doesn't mean] we should stop working with the poor. It's more about setting good examples. Earlier, building houses was about creating communities, within and outside the physical constructs of what we call a house. Some of the initial work that happened with the rehabilitation of underserved communities in India has been extremely insensitive, so it is a good thing that it is changing. A model that is gaining popularity in many South Asian countries is the one where you provide only a framework of beams and columns to house owners, and they have the flexibility to make their own plans. This way, everyone doesn't end up living in the same matchbox houses. We too have recently worked on a similar project with Godrej Homes, using the concept of 'Magic Walls'.

**BJ: How easy or difficult is it to incorporate sustainability while meeting both the aspirations of the client and your own architectural sensibilities? Do you ever feel a clash between the two?**







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If you have projects to nominate, please send an email with a brief profile and photos to [c.lim@futurarc.com](mailto:c.lim@futurarc.com) by end January 2019.

We will notify you if your project is shortlisted for publication. Please note that the selection of projects is subject to editorial discretion.

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