

FUTURARC

The Voice of Green Architecture in Asia-Pacific

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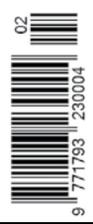
2Q 2019 | volume 65

GREEN AWARDS

Inside: FuturArc Prize and FuturArc Green Leadership Award 2019; see the winners | Brinda Somaya; architect & urban conservationist | Works of Turenscape, Vo Trong Nghia and many others | Special Supplement; winning entries of FuturArc Prize and FuturArc Green Leadership Award 2019

With projects from China, India, Indonesia, Hong Kong, Malaysia, Singapore, Thailand and Vietnam

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Architect & Urban Conservationist

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FUTURARC
PRIZE &
FUTURARC
GREEN
LEADERSHIP
AWARD **2019**
WINNERS

FUTURARC PRIZE 2019

PROFESSIONAL CATEGORY

FIRST PLACE



Yuan Chao is an assistant professor at the Department of Architecture, School of Design and Environment, National University of Singapore. **Ayu Sukma Adelia**, **Wu Guodong** and **Liu Shuangyang** have been working at Yuan's Climate-Sensitive Urban Planning/Design Lab. **Aloysius Lian** is the principle designer at Lian Architects, Singapore. The team believes that the planning/design of hyper-dense cities needs to respect the demands of both nature and human society, and that scientific understandings are necessary to make these planning/design strategies work.

3CS: CONNECT, CONSERVE, CULTIVATE

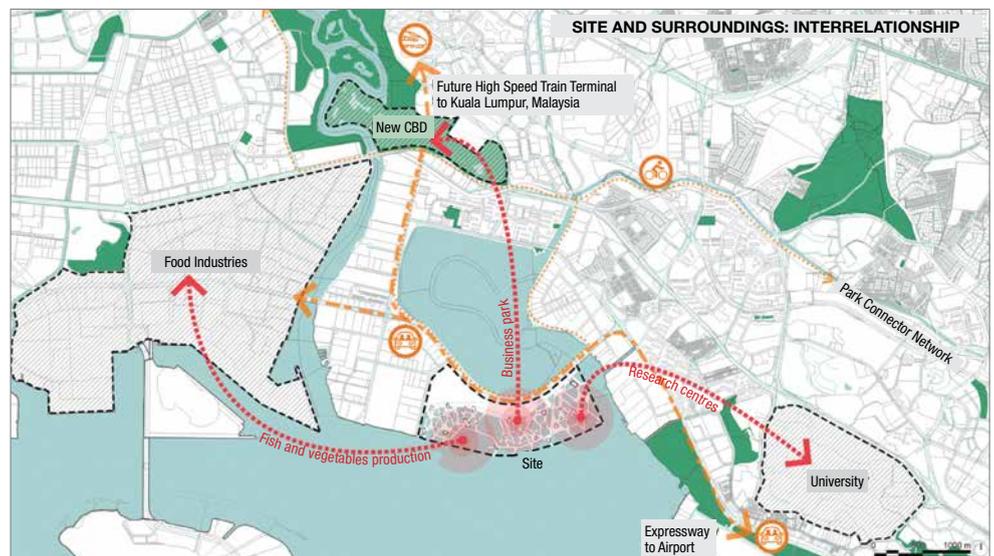
Land scarcity is one of the biggest challenges in Singapore, a high-density megacity. The key challenge is clear. On one hand, there is the insatiable desire for development; on the other hand, there is the limited carrying capacity of our nature and city. The team set our design objectives as connection, conservation and cultivation (3Cs), which summarise our answer for high-density living. A system of systems, in which multiscale passive strategies are conducted, is applied to redevelop an existing industrial area in Singapore to fulfil self-sufficiency, social inclusivity, nature, ecosystems and reciprocity needs.

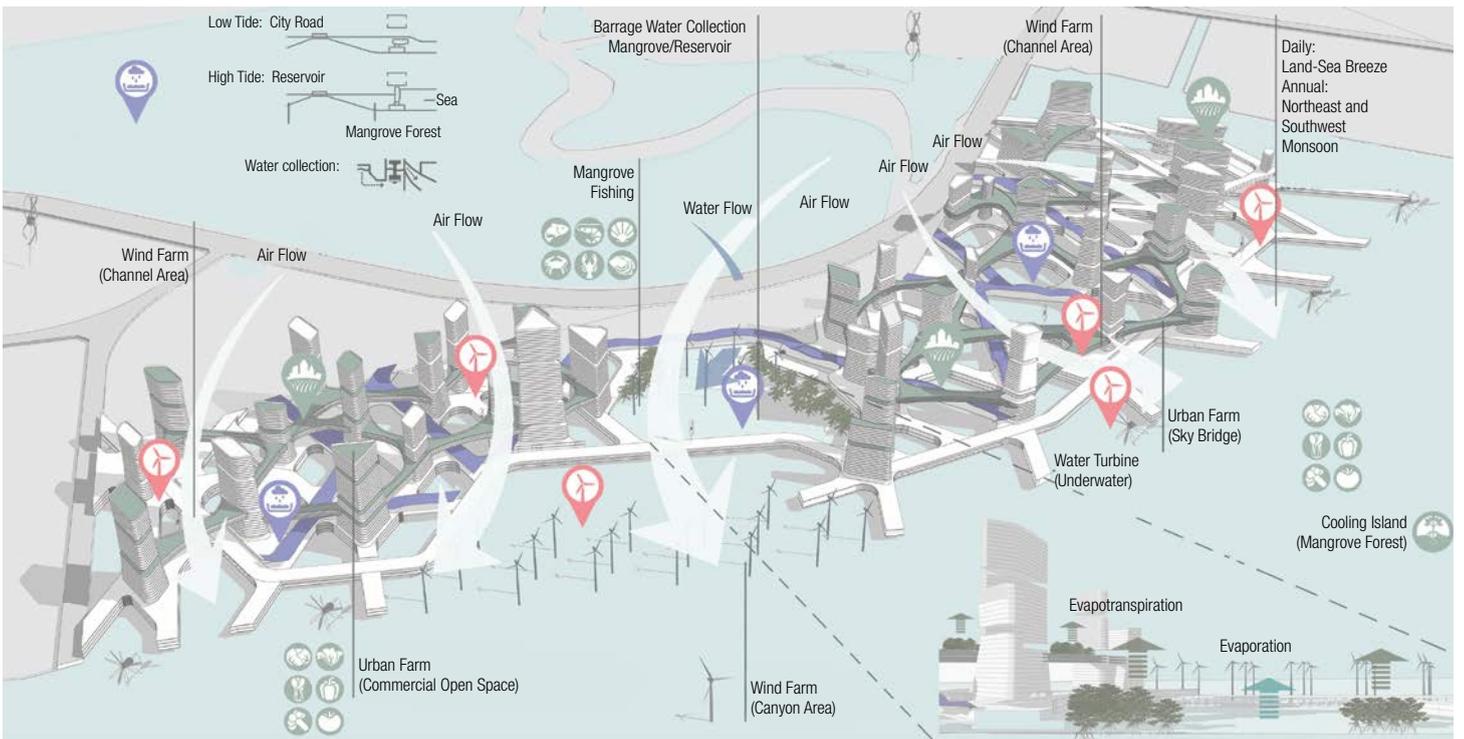
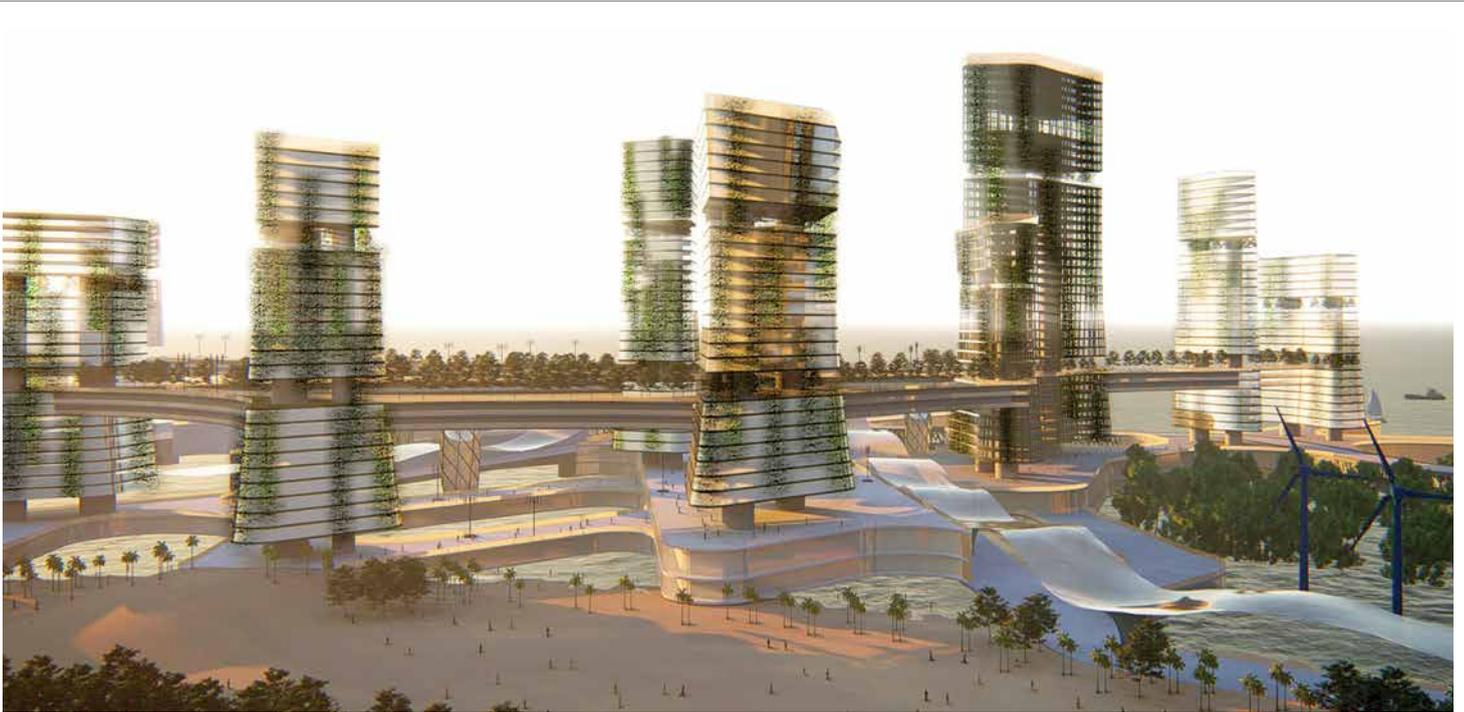
JURORS' COMMENTS

Dr Nirmal Kishnani: *What is remarkable here is that it embraces the waterfront in new ways. It supports life below and above water. The network that is above water is made up of podium and tower typologies, connected at multiple levels. The network below supports marine life. This is a useful template for how cities might grow, within the constraints that are faced today.*

Ada Fung: *A system of systems transforms an existing industrial area of reclaimed land to a new high-density urban area along the waterfronts of Singapore. It achieves the project goals for a hyper-dense city. Connection with an existing neighbourhood and habitat; social inclusivity; self-sufficiency; nature and ecosystems; and reciprocity have been well considered. It demonstrates that a quality environment that embraces community; connectivity; well-being; nature and ecosystems; as well as resource and consumption could be achieved with a sense of materiality, from a professional perspective.*

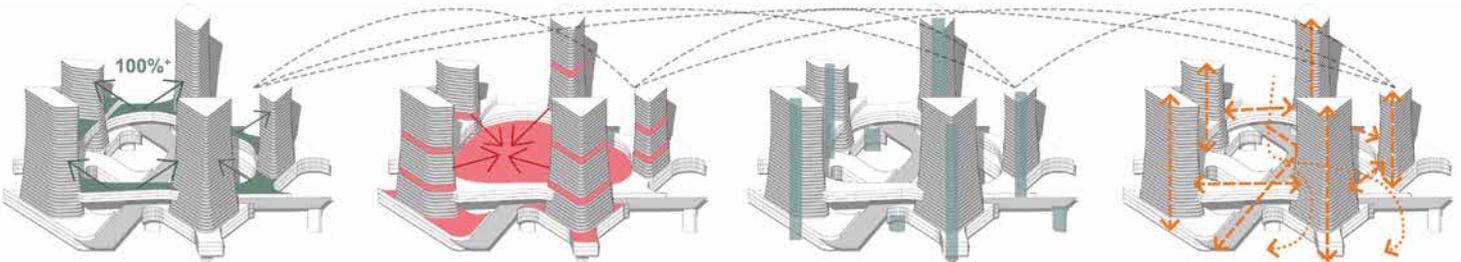
Dr Jalel Sager: *This project has the unusual characteristics of being both bold—even visionary—and buildable, under current practice. It is not difficult to imagine this becoming part of Singapore's already fantastic landscape. It would speak well with existing Singapore architectural landmarks, such as Gardens by the Bay.*





SYSTEM OF SYSTEMS – HYPER-DENSITY URBAN SYSTEM

A collection of four task-oriented systems (i.e., self-sufficiency, social inclusivity, nature & ecosystems, and reciprocity) that interweaves with each other, and pool their capabilities together to create a new, more complex system, which offers more functionality and performance than simply the sum of the constituent parts.



SELF-SUFFICIENCY
Multiscale passive strategies are applied into the design to utilise the natural resources, such as land-area breeze, monsoon, tidal flow and off-shore ecosystems to get self-sufficiency.

SOCIAL INCLUSIVITY
A series of open spaces (horizontally and vertically) is designed to support the diverse activities, which include activities of all age groups, and promote community well-being.

NATURE & ECOSYSTEMS
Instead of traditional landfills, a column structure is used to support and raise the new town above sea level, to protect the marine ecosystems. This also offers a great potential for them to recover.

CONNECTIVITY
The site is interconnected with the urban context for mutual benefits by a multilayered system, i.e., ecosystem, food and urban facility, with the transport system to enhance accessibility.

MAIN FEATURE



402

401

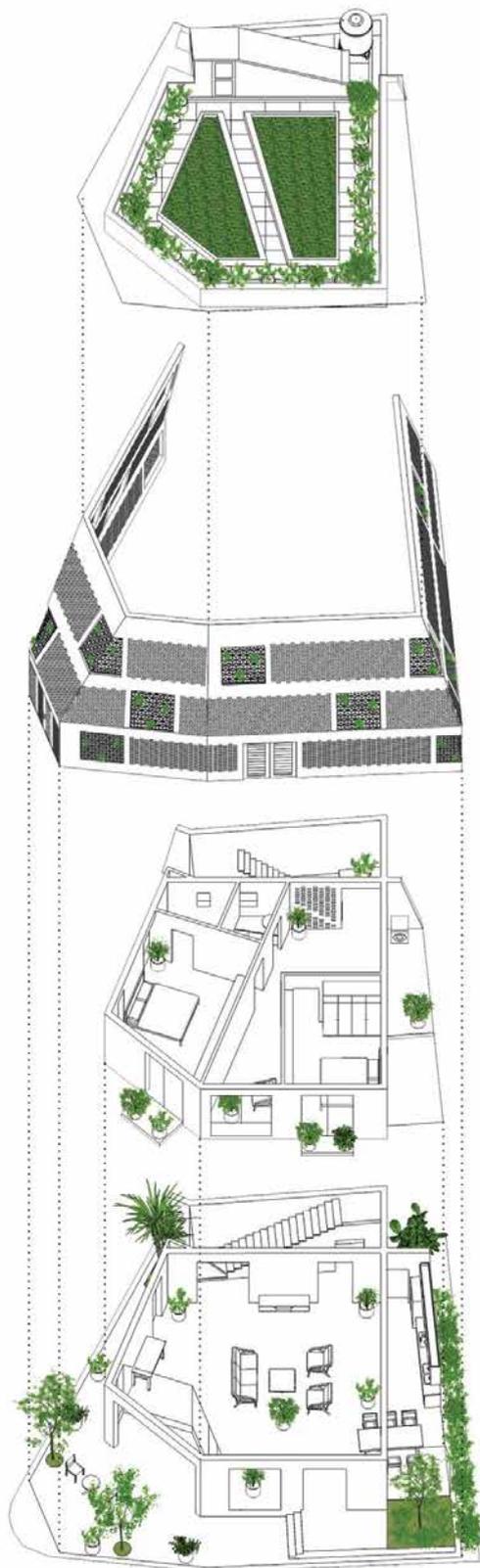
The FuturArc Interview

Brinda Somaya

Architect & Urban Conservationist

By **Bhawna Jaimini**





BRICK CAVE

Resembling a cave, the overall structure of the house is made up of, and enclosed by, two layers of brick wall meeting each other at an intersection, with alternate green arrangements of plants and vegetables. Bricks have long been a familiar local material and are widely used in the rural areas of Vietnam, by employing a simple manual method of construction.

The two built-in layers of wall function as a filter to eliminate the adverse elements of the external environment (solar heat gain from the west; dust; noise) while bringing nature (daylight; rain; wind) into the house. The top of the outer wall is tilted inwards in different diagonal angles to create better views.

The Brick Cave encompasses a chain of spaces interconnected with one another, with random apertures gradually shifting from openness/public to closeness/privacy, and vice versa. The combination of close and open areas creates diverse relations with the surroundings, and thus helps blur the boundaries between inside and outside, house and street/alley.

PROJECT DATA

Project Name

Brick Cave

Location

Bieu Khe Hamlet, Thuy Lam Commune, Dong Anh District, Hanoi, Vietnam

Completion Date

December 2017

Site Area

175 square metres

Gross Floor Area

190 square metres

Number of Rooms

2 bedrooms

Building Height

9.73 metres

Client/Owner

Nguyen Van Kinh

Architecture Firm

H&P Architects

Principal Architect

Doan Thanh Ha

Main Contractor

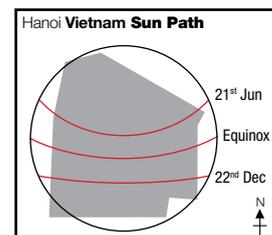
Local workers

Mechanical & Electrical Engineer

H&P Architects

Civil & Structural Engineer

H&P Architects



1 Aerial view 2 The two layers of wall filter out the adverse weather effects while bringing air and light in 3 Axonometric diagram

3500 MILLIMETER HOUSE

The house, measuring 3.5 metres wide by 17 metres long, is home to a young family comprising an architect, his wife and son. The programme came about from discussions between the architect and his wife on what they need the space to be (rather than what they want). Thus, the 100-square-metre house has a 35-square-metre master bedroom occupying the ground floor; living-dining-kitchen and laundry on the second floor; a bed-play-study space for the son; and a rooftop area with a city view.

This three-storey house redefines the functional arrangements within a narrow site while creating bright and airy spaces. Affordability and compactness are values that the project has successfully embodied by integrating well thought-out spatial experiences, storage systems and low-cost strategies in the design process—from selecting a narrow site of about 3,500 millimetres wide and choosing cost-efficient materials and construction systems to implementing creative storage solutions and climate-responsive ideas.

One of the main aims was to create a compact space—much like a tiny or micro house—that will not compromise the quality of living for the occupants. The project does this by going wall-less; having different floor levels and ceiling heights, and connecting each floor with various types of stair-furniture interfaces, i.e., combining the furniture modules with functions such as stairs. Simply put, a plug-and-play system that will free the house of clutter and rigidity.

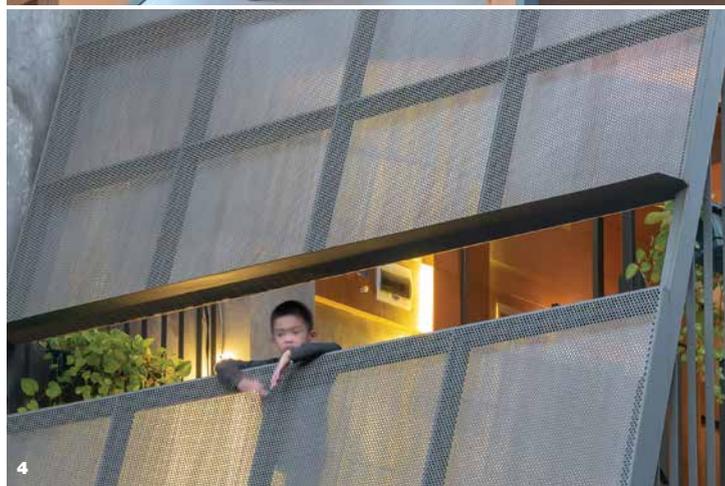
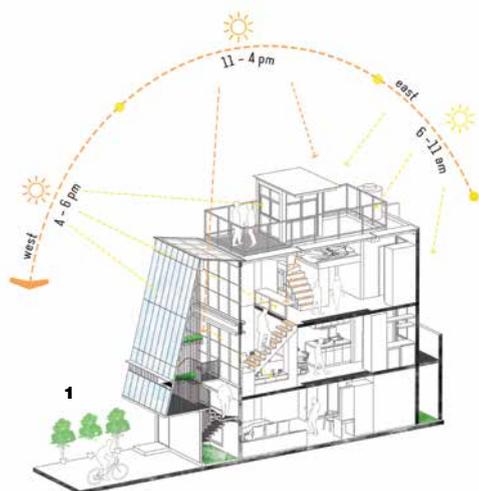
The building has a west-facing orientation, and as such, a perforated steel and polycarbonate façade is used as an outer skin that filters direct sunlight going into the house. Having skylights located on each floor creates dramatic natural lighting on the inside. A structurally insulated super foam panel was used for the walls to reduce heat, noise and costs while increasing construction speed.

The 3500 Millimeter House seeks to inspire other homeowners to see the benefits of compact living spaces, with solutions that also address the challenges of living in a dense city like Jakarta. Following this project’s design and building methods, such a house could be built in five months, under a controlled budget, and adaptable to other possible configurations to make it replicable.

PROJECT DATA

- Project Name**
3500 Millimeter House
- Location**
South Jakarta, Indonesia
- Completion Date**
May 2018
- Site Area**
56 square metres
- Gross Floor Area**
100 square metres
- Number of Rooms**
2 bedrooms
- Building Height**
3 storeys
- Client/Owner**
Yurika
- Architecture Firm**
AGo Architects
- Principal Architect**
Abimantra Pradhana
- Main Contractor**
Sutejo
- Civil & Structural Engineer**
Stefania Dhian

1 Sun path diagram 2 & 3 Combining furniture modules with functions frees the house of clutter and rigidity 4 Perforated steel and polycarbonate façade



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SPECIAL SUPPLEMENT 2019

FUTURARC PRIZE & FUTURARC GREEN LEADERSHIP AWARD

Featuring
Information on the Competitions
Jury
Jurors' Comments
Winners



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COMPETITIONS:

2020

COMING

SOON